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new tests

Intel Core i9-13900K testing with a ASUS PRIME Z790-P WIFI (0602 BIOS) and AMD Radeon RX 6700 XT 12GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

b had the most wins, coming in first place for 33% of the tests.

Based on the geometric mean of all complete results, the fastest (a) was 1.019x the speed of the slowest (d). b was 0.984x the speed of a, c was 0.999x the speed of b, d was 0.998x the speed of c.

The results with the greatest spread from best to worst included:

KeyDB (Test: LPOP - Parallel Connections: 100) at 1.43x
KeyDB (Test: LPOP - Parallel Connections: 500) at 1.399x
KeyDB (Test: LPOP - Parallel Connections: 900) at 1.389x
KeyDB (Test: SET - Parallel Connections: 100) at 1.172x
KeyDB (Test: LPOP - Parallel Connections: 50) at 1.169x
KeyDB (Test: SADD - Parallel Connections: 100) at 1.168x
KeyDB (Test: HMSET - Parallel Connections: 100) at 1.125x
KeyDB (Test: SADD - Parallel Connections: 900) at 1.109x
KeyDB (Test: SET - Parallel Connections: 500) at 1.106x

KeyDB (Test: LPUSH - Parallel Connections: 500) at 1.102x.

Test Systems:

a

b

c

d

Processor: Intel Core i9-13900K @ 4.00GHz (24 Cores / 32 Threads), Motherboard: ASUS PRIME Z790-P WIFI (0602 BIOS), Chipset: Intel Device 7a27, Memory: 32GB, Disk: 1000GB Western Digital WDS100T1X0E-00AFY0, Graphics: AMD Radeon RX 6700 XT 12GB (2855/1000MHz), Audio: Realtek ALC897, Monitor: ASUS VP28U, Network: Intel Device 7a70

OS: Ubuntu 22.04, Kernel: 6.0.0-060000-generic (x86_64), Desktop: GNOME Shell 42.4, Display Server: X Server 1.21.1.3 + Wayland, OpenGL: 4.6 Mesa 22.3.0-devel (git-8945375 2022-10-04 jammy-oibaf-ppa) (LLVM 14.0.6 DRM 3.48), Vulkan: 1.3.230, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0x10e - Thermald 2.4.9
Python Notes: Python 3.10.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling PBRSB-eIBRS: SW sequence + srbds: Not affected + tsx_async_abort: Not affected

	a	b	c	d
KeyDB - GET - 50 (Reqs/sec)	**2301457**	**2203905**	2258764	2273451
Normalized	100%	95.76%	98.14%	98.78%
Standard Deviation	0.9%			
KeyDB - SET - 50 (Reqs/sec)	2051262	**2074172**	**2007790**	2013693
Normalized	98.9%	100%	96.8%	97.08%
Standard Deviation	2.2%			
KeyDB - GET - 100 (Reqs/sec)	**1526251**	**1482228**	1488317	1484384
Normalized	100%	97.12%	97.51%	97.26%
Standard Deviation	1.5%			
KeyDB - GET - 500 (Reqs/sec)	1493933	**1558846**	**1476887**	1553519
Normalized	95.84%	100%	94.74%	99.66%

new tests

Standard Deviation	5.1%			
KeyDB - GET - 900 (Reqs/sec)	1563299	**1582379**	1527464	**1510802**
Normalized	98.79%	100%	96.53%	95.48%
Standard Deviation	2.2%			
KeyDB - LPOP - 50 (Reqs/sec)	**2355769**	2032603	**2014748**	2016942
Normalized	100%	86.28%	85.52%	85.62%
Standard Deviation	1.9%			
KeyDB - SADD - 50 (Reqs/sec)	**2240005**	2210043	2215134	**2186557**
Normalized	100%	98.66%	98.89%	97.61%
Standard Deviation	1.1%			
KeyDB - SET - 100 (Reqs/sec)	1277181	1180777	**1105999**	**1296008**
Normalized	98.55%	91.11%	85.34%	100%
Standard Deviation	0.9%			
KeyDB - SET - 500 (Reqs/sec)	1242079	**1314786**	**1188354**	1307531
Normalized	94.47%	100%	90.38%	99.45%
Standard Deviation	1.1%			
KeyDB - SET - 900 (Reqs/sec)	1227965	**1200999**	1209599	**1305926**
Normalized	94.03%	91.97%	92.62%	100%
Standard Deviation	3.2%			
KeyDB - HMSET - 50 (Reqs/sec)	**770419**	**827089**	822829	781067
Normalized	93.15%	100%	99.48%	94.44%
Standard Deviation	2.3%			
KeyDB - LPOP - 100 (Reqs/sec)	**1548102**	**1082814**	1133556	1110667
Normalized	100%	69.94%	73.22%	71.74%
Standard Deviation	4.7%			
KeyDB - LPOP - 500 (Reqs/sec)	**1541363**	1142413	1166752	**1101928**
Normalized	100%	74.12%	75.7%	71.49%
Standard Deviation	3.9%			
KeyDB - LPOP - 900 (Reqs/sec)	**1572283**	**1132093**	1171454	1168661
Normalized	100%	72%	74.51%	74.33%
Standard Deviation	5.4%			
KeyDB - LPUSH - 50 (Reqs/sec)	1885807	1849523	**1964096**	**1816596**
Normalized	96.01%	94.17%	100%	92.49%
Standard Deviation	2.3%			
KeyDB - SADD - 100 (Reqs/sec)	1301147	1326330	**1443335**	**1235605**
Normalized	90.15%	91.89%	100%	85.61%
Standard Deviation	2.3%			
KeyDB - SADD - 500 (Reqs/sec)	**1369793**	1365262	**1294096**	1296243
Normalized	100%	99.67%	94.47%	94.63%
Standard Deviation	5.1%			
KeyDB - SADD - 900 (Reqs/sec)	1318362	**1402721**	1331771	**1264958**
Normalized	93.99%	100%	94.94%	90.18%
Standard Deviation	3.8%			
KeyDB - HMSET - 100 (Reqs/sec)	811193	838926	**858045**	**762637**
Normalized	94.54%	97.77%	100%	88.88%
Standard Deviation	3.4%			
KeyDB - HMSET - 500 (Reqs/sec)	540612	**575162**	544526	**514398**
Normalized	93.99%	100%	94.67%	89.44%
Standard Deviation	8.4%			
KeyDB - HMSET - 900 (Reqs/sec)	405829	385410	**373871**	**405920**
Normalized	99.98%	94.95%	92.1%	100%
Standard Deviation	7%			
KeyDB - LPUSH - 100 (Reqs/sec)	1079455	**1009102**	1053253	**1161009**
Normalized	92.98%	86.92%	90.72%	100%
Standard Deviation	6.8%			

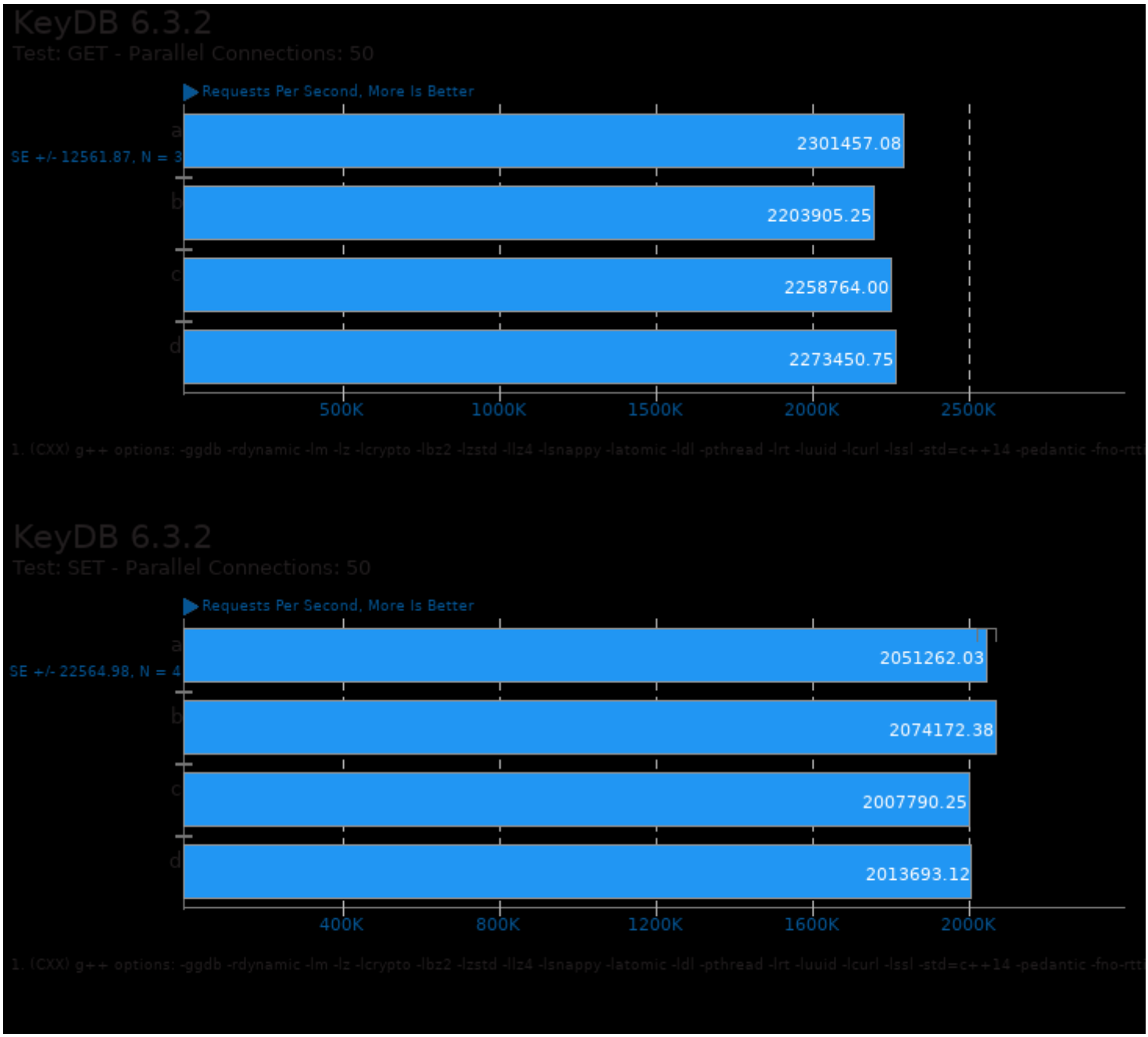
new tests

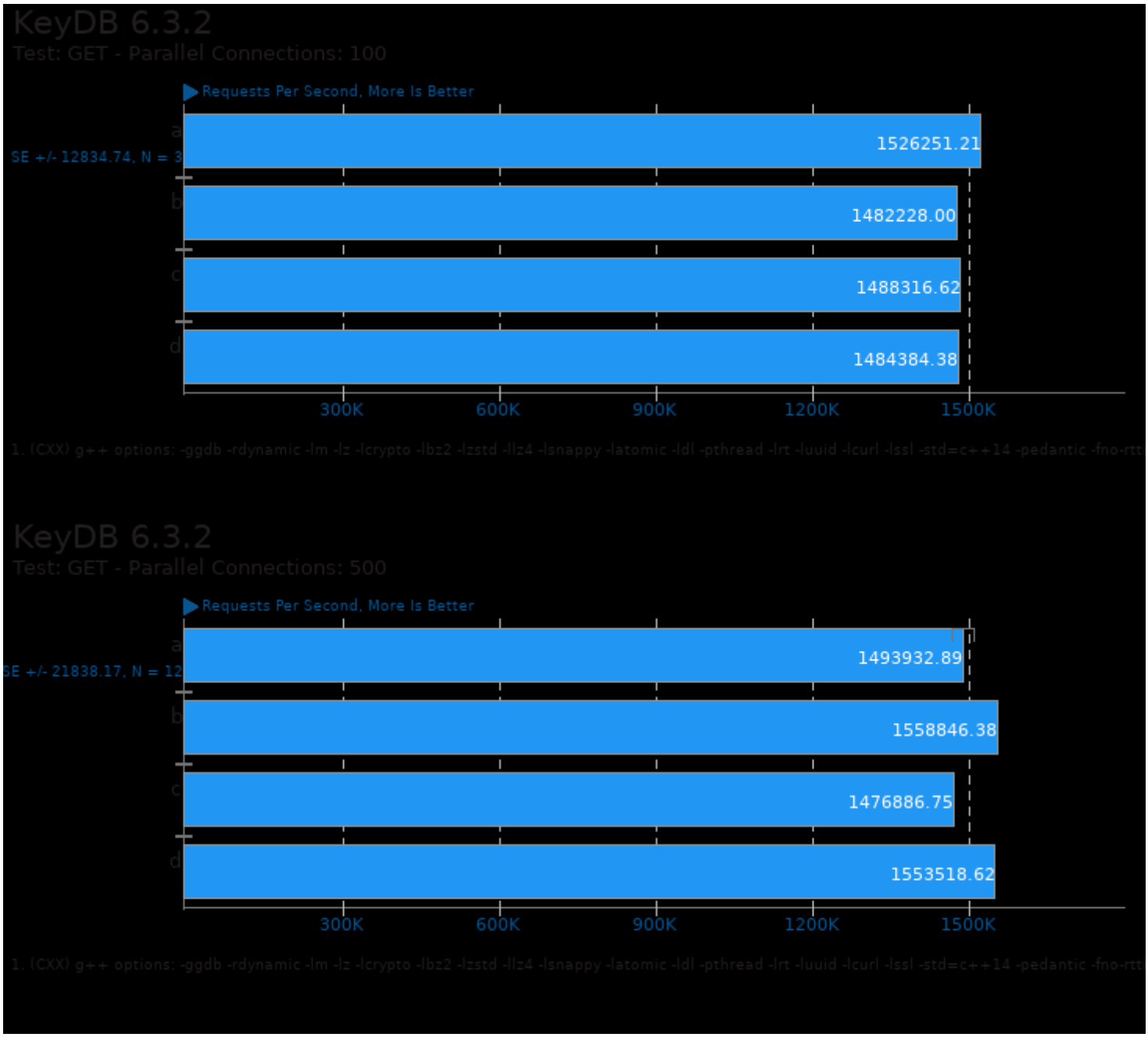
KeyDB - LPUSH - 500 (Reqs/sec)	972929	932940	**1020158**	**925806**
Normalized	95.37%	91.45%	100%	90.75%
Standard Deviation	4.7%			
KeyDB - LPUSH - 900 (Reqs/sec)	**913353**	**988729**	967361	934195
Normalized	92.38%	100%	97.84%	94.48%
Standard Deviation	1.5%			
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - A.M.S (items/sec)	17.0977	**17.0299**	17.1322	**17.2573**
Normalized	99.08%	98.68%	99.28%	100%
Standard Deviation	0.9%			
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - A.M.S (ms/batch)	**693.7534**	**697.4591**	696.4586	693.8845
Normalized	100%	99.47%	99.61%	99.98%
Standard Deviation	0.4%			
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - S.S.S (items/sec)	15.1510	15.1488	**15.1431**	**15.1564**
Normalized	99.96%	99.95%	99.91%	100%
Standard Deviation	0.2%			
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - S.S.S (ms/batch)	65.9984	66.0079	**66.0331**	**65.9748**
Normalized	99.96%	99.95%	99.91%	100%
Standard Deviation	0.2%			
Neural Magic DeepSparse - N.S.A.8.P.Q.B.B.U - A.M.S (items/sec)	**201.8858**	202.8721	202.7414	**203.7202**
Normalized	99.1%	99.58%	99.52%	100%
Standard Deviation	1.9%			
Neural Magic DeepSparse - N.S.A.8.P.Q.B.B.U - A.M.S (ms/batch)	**59.3747**	59.0448	59.1069	**58.8037**
Normalized	99.04%	99.59%	99.49%	100%
Standard Deviation	1.9%			
Neural Magic DeepSparse - N.S.A.8.P.Q.B.B.U - S.S.S (items/sec)	97.0266	**96.6004**	**97.6971**	97.0456
Normalized	99.31%	98.88%	100%	99.33%
Standard Deviation	0.3%			
Neural Magic DeepSparse - N.S.A.8.P.Q.B.B.U - S.S.S (ms/batch)	10.3007	**10.3459**	**10.2299**	10.2988
Normalized	99.31%	98.88%	100%	99.33%
Standard Deviation	0.3%			
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - A.M.S (items/sec)	62.4727	**62.0325**	62.4335	**62.9368**
Normalized	99.26%	98.56%	99.2%	100%
Standard Deviation	0.4%			
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - A.M.S (ms/batch)	191.4059	**192.5598**	191.3873	**189.9321**
Normalized	99.23%	98.64%	99.24%	100%
Standard Deviation	0.4%			
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - S.S.S (items/sec)	**44.4092**	44.3471	**44.2034**	44.3803
Normalized	100%	99.86%	99.54%	99.93%
Standard Deviation	0.3%			
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - S.S.S (ms/batch)	**22.5114**	22.5427	**22.616**	22.5261
Normalized	100%	99.86%	99.54%	99.93%

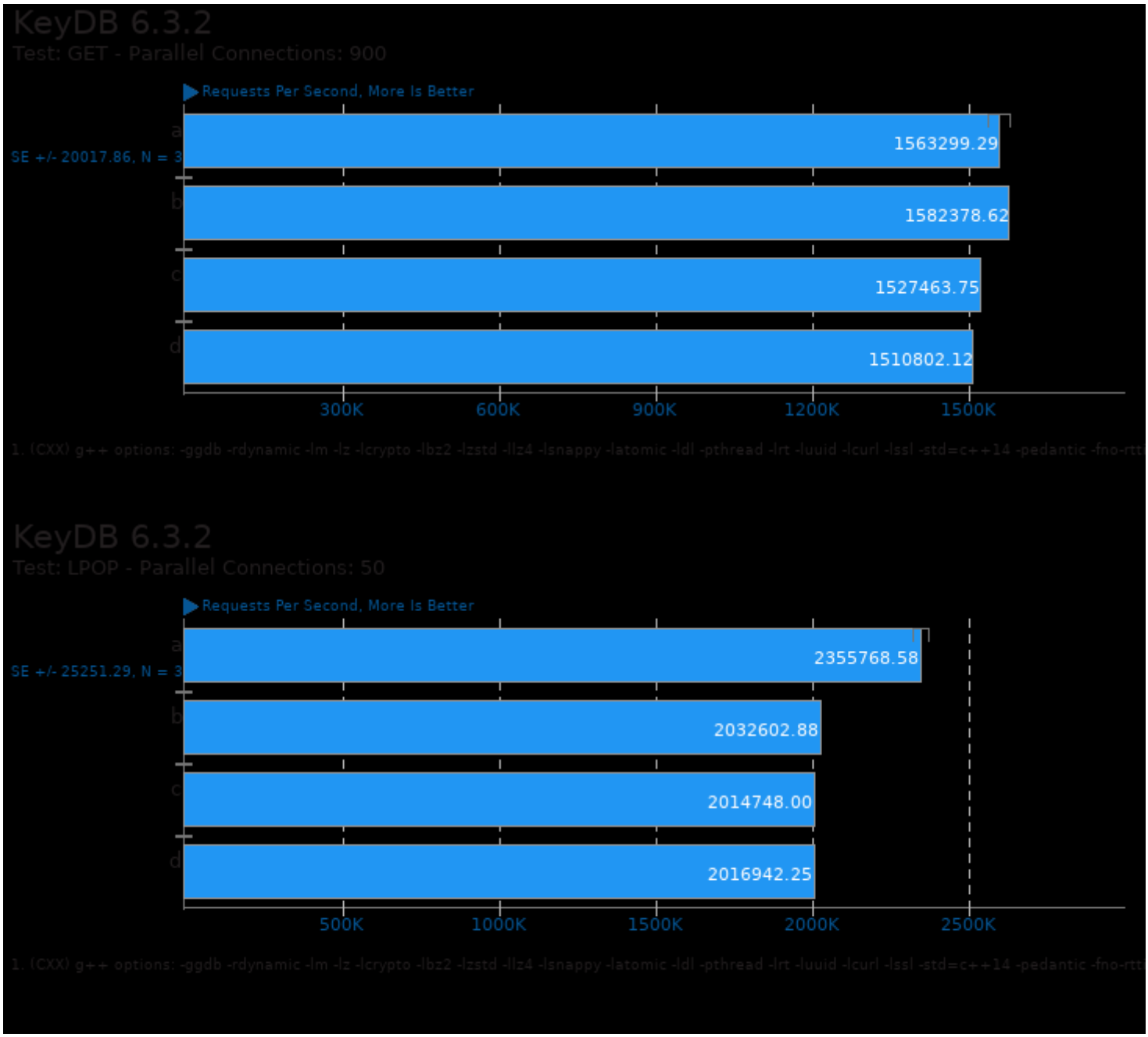
Standard Deviation	0.3%			
Neural Magic DeepSparse - C.D.Y.C - A.M.S (items/sec)	100.5956	102.1854	100.922	101.5808
Normalized	98.44%	100%	98.76%	99.41%
Standard Deviation	0.8%			
Neural Magic DeepSparse - C.D.Y.C - A.M.S (ms/batch)	118.9735	117.1808	118.6662	117.9462
Normalized	98.49%	100%	98.75%	99.35%
Standard Deviation	0.9%			
Neural Magic DeepSparse - C.D.Y.C - S.S.S (items/sec)	67.8527	68.4113	68.2268	69.2308
Normalized	98.01%	98.82%	98.55%	100%
Standard Deviation	0.8%			
Neural Magic DeepSparse - C.D.Y.C - S.S.S (ms/batch)	14.7283	14.607	14.6466	14.4335
Normalized	98%	98.81%	98.55%	100%
Standard Deviation	0.8%			
Neural Magic DeepSparse - C.C.R.5.I - A.M.S (items/sec)	220.2242	223.1123	222.5816	220.629
Normalized	98.71%	100%	99.76%	98.89%
Standard Deviation	1.1%			
Neural Magic DeepSparse - C.C.R.5.I - A.M.S (ms/batch)	54.4516	53.7491	53.8481	54.3784
Normalized	98.71%	100%	99.82%	98.84%
Standard Deviation	1.1%			
Neural Magic DeepSparse - C.C.R.5.I - S.S.S (items/sec)	125.7040	126.9919	126.7132	126.8482
Normalized	98.99%	100%	99.78%	99.89%
Standard Deviation	0.5%			
Neural Magic DeepSparse - C.C.R.5.I - S.S.S (ms/batch)	7.9509	7.8702	7.8877	7.8787
Normalized	98.99%	100%	99.78%	99.89%
Standard Deviation	0.5%			
Neural Magic DeepSparse - N.T.C.D.m - A.M.S (items/sec)	146.8362	146.7638	148.9785	146.7079
Normalized	98.56%	98.51%	100%	98.48%
Standard Deviation	0.2%			
Neural Magic DeepSparse - N.T.C.D.m - A.M.S (ms/batch)	81.6431	81.6896	80.4175	81.7629
Normalized	98.5%	98.44%	100%	98.35%
Standard Deviation	0.2%			
Neural Magic DeepSparse - N.T.C.D.m - S.S.S (items/sec)	84.2139	84.3354	84.6155	84.7035
Normalized	99.42%	99.57%	99.9%	100%
Standard Deviation	0.4%			
Neural Magic DeepSparse - N.T.C.D.m - S.S.S (ms/batch)	11.8712	11.8541	11.8147	11.8028
Normalized	99.42%	99.57%	99.9%	100%
Standard Deviation	0.4%			
Neural Magic DeepSparse - C.S.9.P.Y.P - A.M.S (items/sec)	22.4583	22.572	22.4829	22.8771
Normalized	98.17%	98.67%	98.28%	100%
Standard Deviation	0.3%			

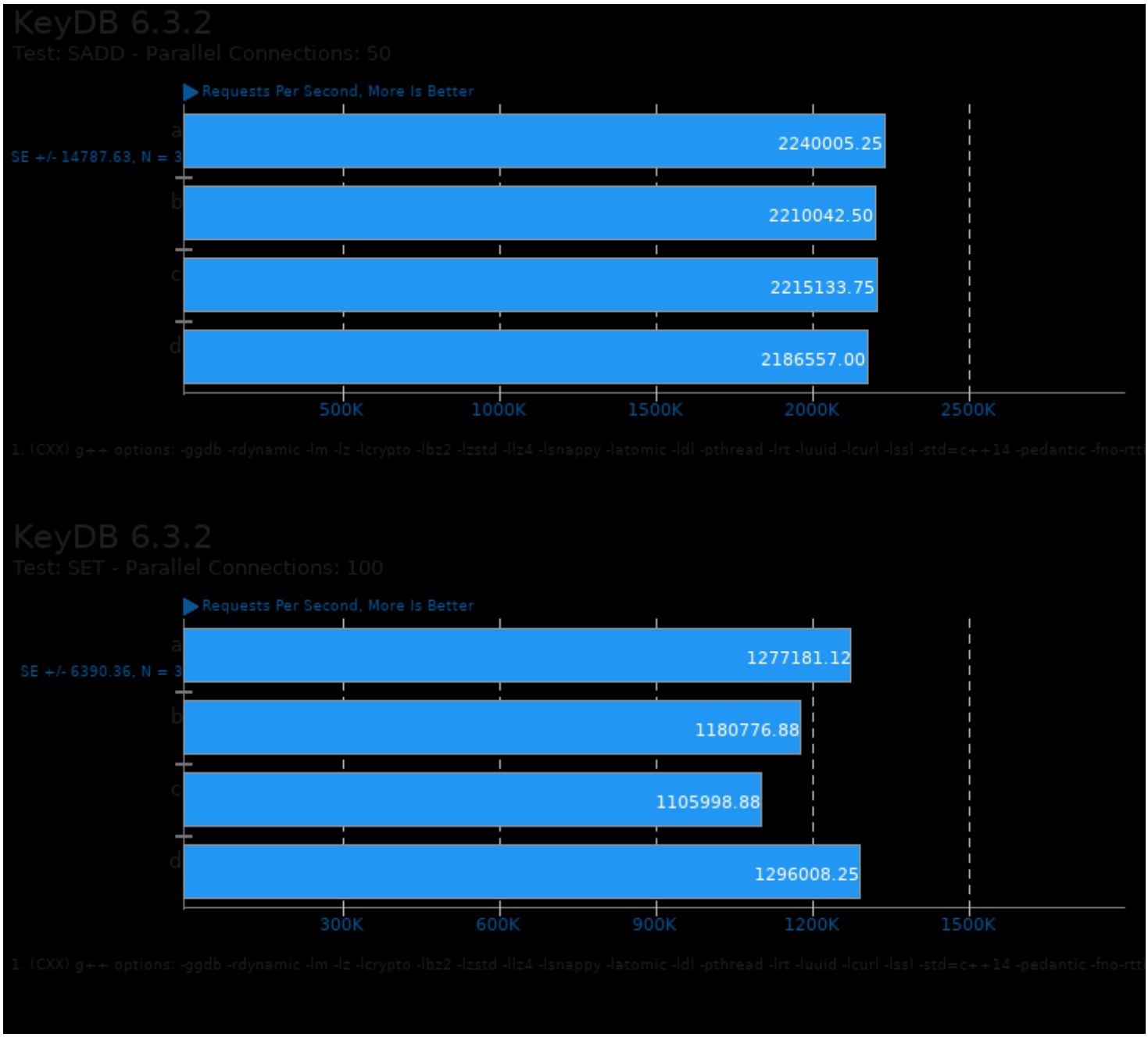
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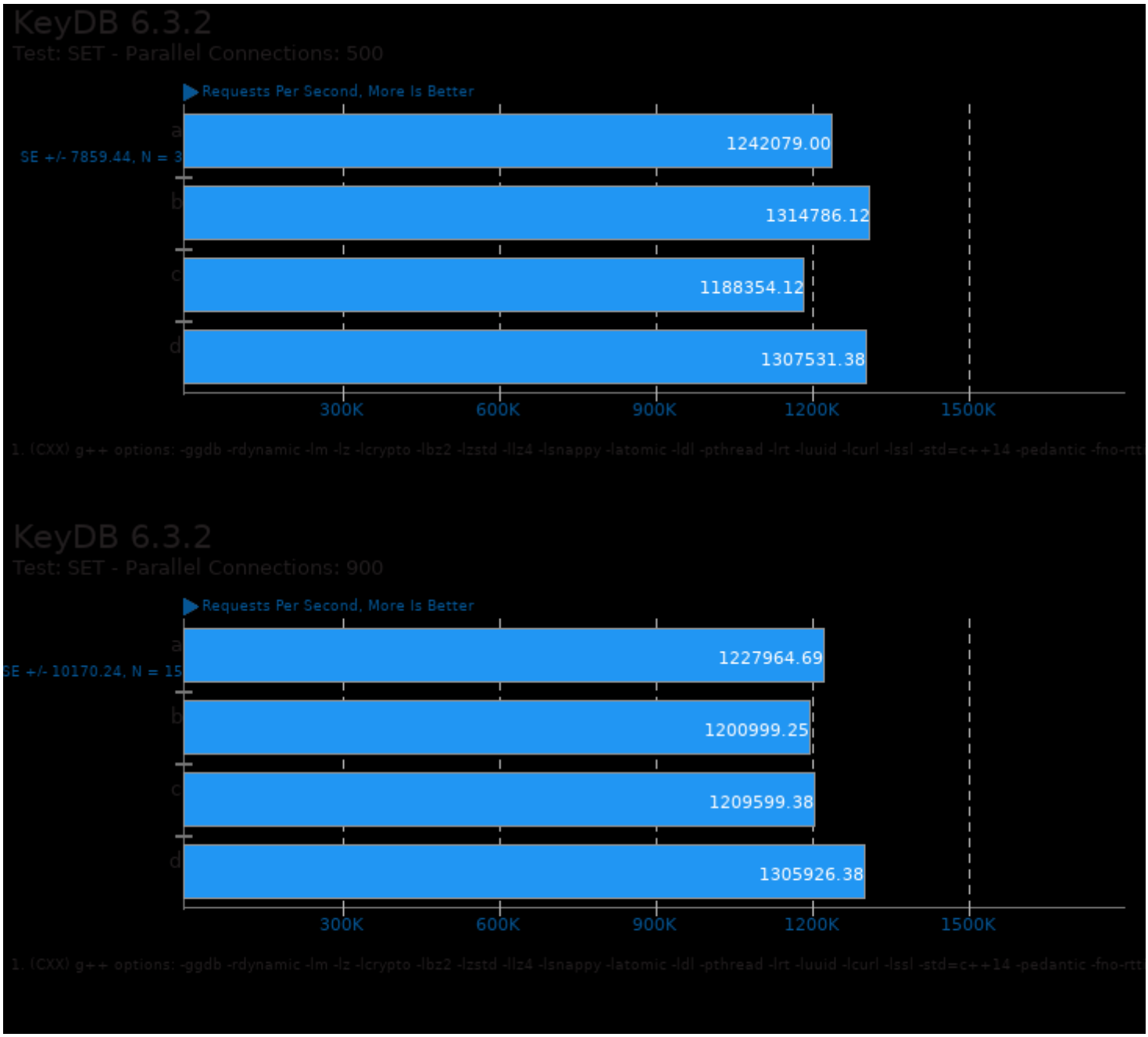
Neural Magic DeepSparse - C.S.9.P.Y.P - A.M.S (ms/batch)	531.4908	530.1764	528.6955	523.9449
Normalized	98.58%	98.82%	99.1%	100%
Standard Deviation	0.1%			
Neural Magic DeepSparse - C.S.9.P.Y.P - S.S.S (items/sec)	17.9198	17.9723	17.8257	17.902
Normalized	99.71%	100%	99.18%	99.61%
Standard Deviation	0.4%			
Neural Magic DeepSparse - C.S.9.P.Y.P - S.S.S (ms/batch)	55.7950	55.6313	56.0887	55.85
Normalized	99.71%	100%	99.18%	99.61%
Standard Deviation	0.4%			
Neural Magic DeepSparse - N.T.C.B.b.u.S - A.M.S (items/sec)	74.6763	73.963	75.2056	74.4384
Normalized	99.3%	98.35%	100%	98.98%
Standard Deviation	0.3%			
Neural Magic DeepSparse - N.T.C.B.b.u.S - A.M.S (ms/batch)	160.4842	161.8553	159.443	161.0202
Normalized	99.35%	98.51%	100%	99.02%
Standard Deviation	0.3%			
Neural Magic DeepSparse - N.T.C.B.b.u.S - S.S.S (items/sec)	42.4124	42.4107	42.5922	42.4206
Normalized	99.58%	99.57%	100%	99.6%
Standard Deviation	0.3%			
Neural Magic DeepSparse - N.T.C.B.b.u.S - S.S.S (ms/batch)	23.5749	23.5757	23.4753	23.57
Normalized	99.58%	99.57%	100%	99.6%
Standard Deviation	0.3%			
Neural Magic DeepSparse - N.T.C.B.b.u.c - A.M.S (items/sec)	17.0593	17.2641	17.0024	17.2405
Normalized	98.81%	100%	98.48%	99.86%
Standard Deviation	0.6%			
Neural Magic DeepSparse - N.T.C.B.b.u.c - A.M.S (ms/batch)	694.2030	693.6961	695.2334	693.8329
Normalized	99.93%	100%	99.78%	99.98%
Standard Deviation	0.5%			
Neural Magic DeepSparse - N.T.C.B.b.u.c - S.S.S (items/sec)	15.1861	15.2008	15.1247	15.1758
Normalized	99.9%	100%	99.5%	99.84%
Standard Deviation	0.5%			
Neural Magic DeepSparse - N.T.C.B.b.u.c - S.S.S (ms/batch)	65.8471	65.7826	66.1119	65.8907
Normalized	99.9%	100%	99.5%	99.84%
Standard Deviation	0.5%			

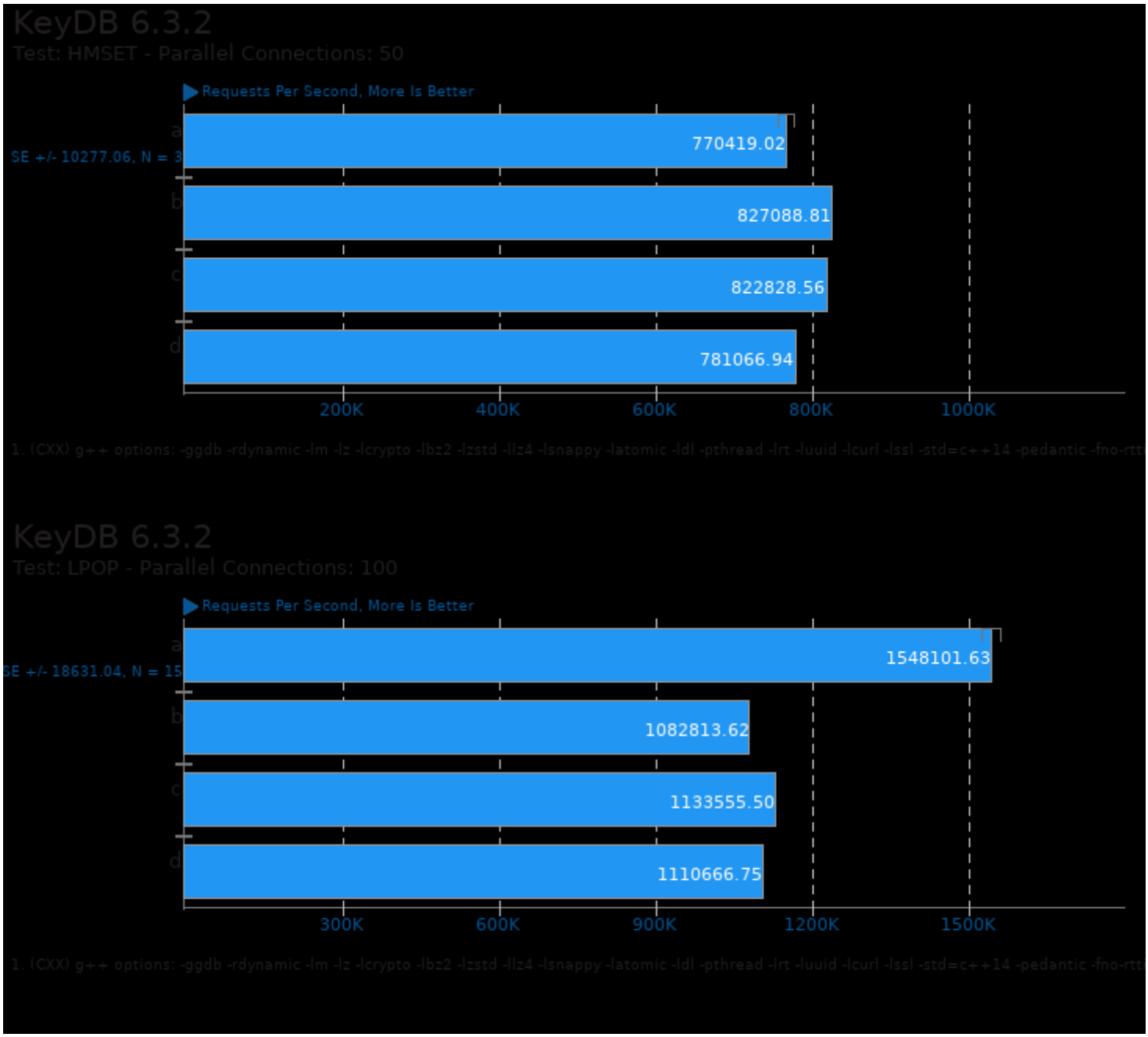

KeyDB 6.3.2
Test: GET - Parallel Connections: 50
Requests Per Second, More Is Better
SE +/- 12561.87, N = 3
a
2301457.08
b
2203905.25
c
2258764.00
d
2273450.75
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: SET - Parallel Connections: 50
Requests Per Second, More Is Better
SE +/- 22564.98, N = 4
a
2051262.03
b
2074172.38
c
2007790.25
d
2013693.12
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

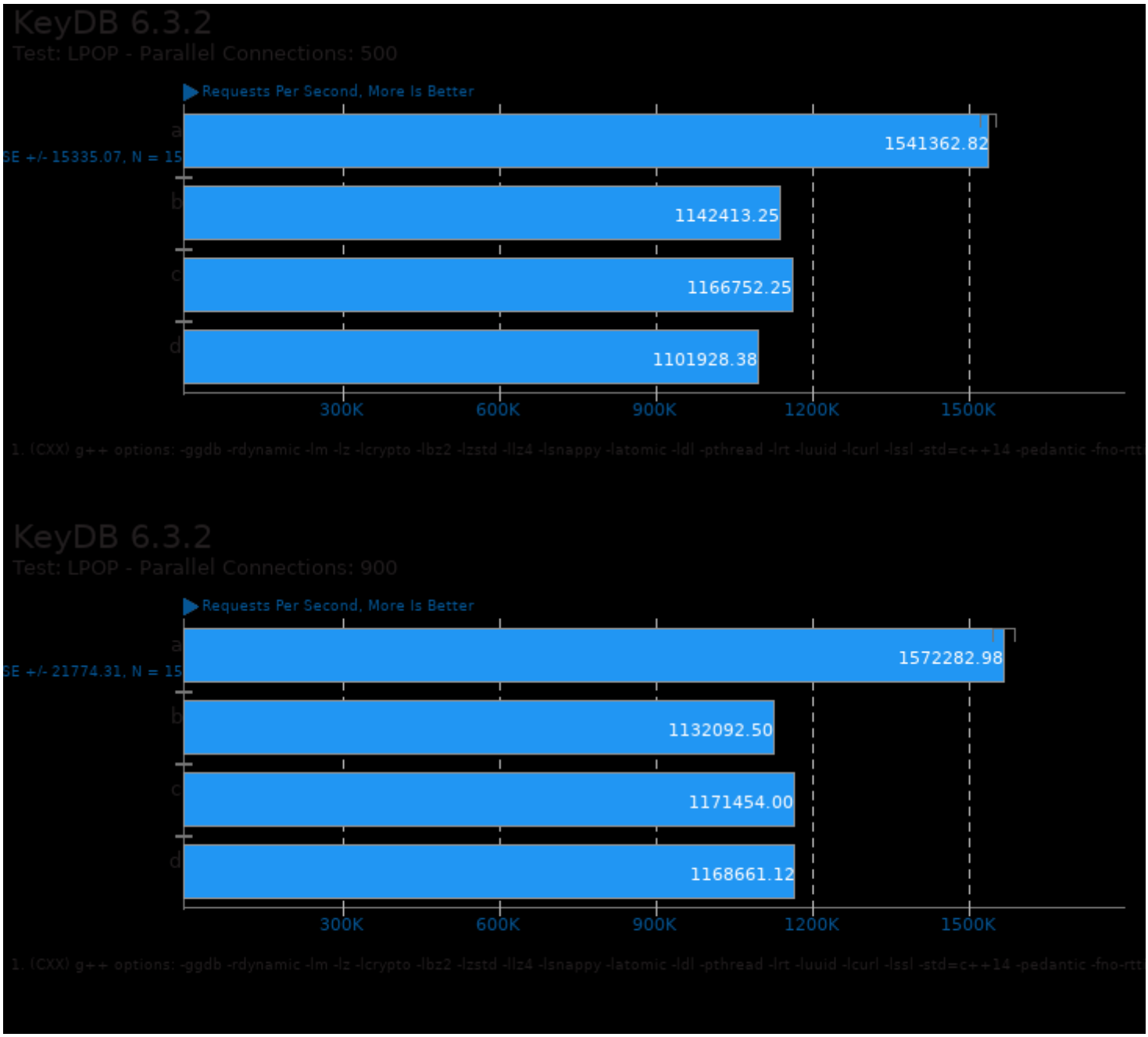

KeyDB 6.3.2
Test: GET - Parallel Connections: 100
Requests Per Second, More Is Better
SE +/- 12834.74, N = 3
a
1526251.21
b
1482228.00
c
1488316.62
d
1484384.38
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: GET - Parallel Connections: 500
Requests Per Second, More Is Better
SE +/- 21838.17, N = 12
a
1493932.89
b
1558846.38
c
1476886.75
d
1553518.62
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

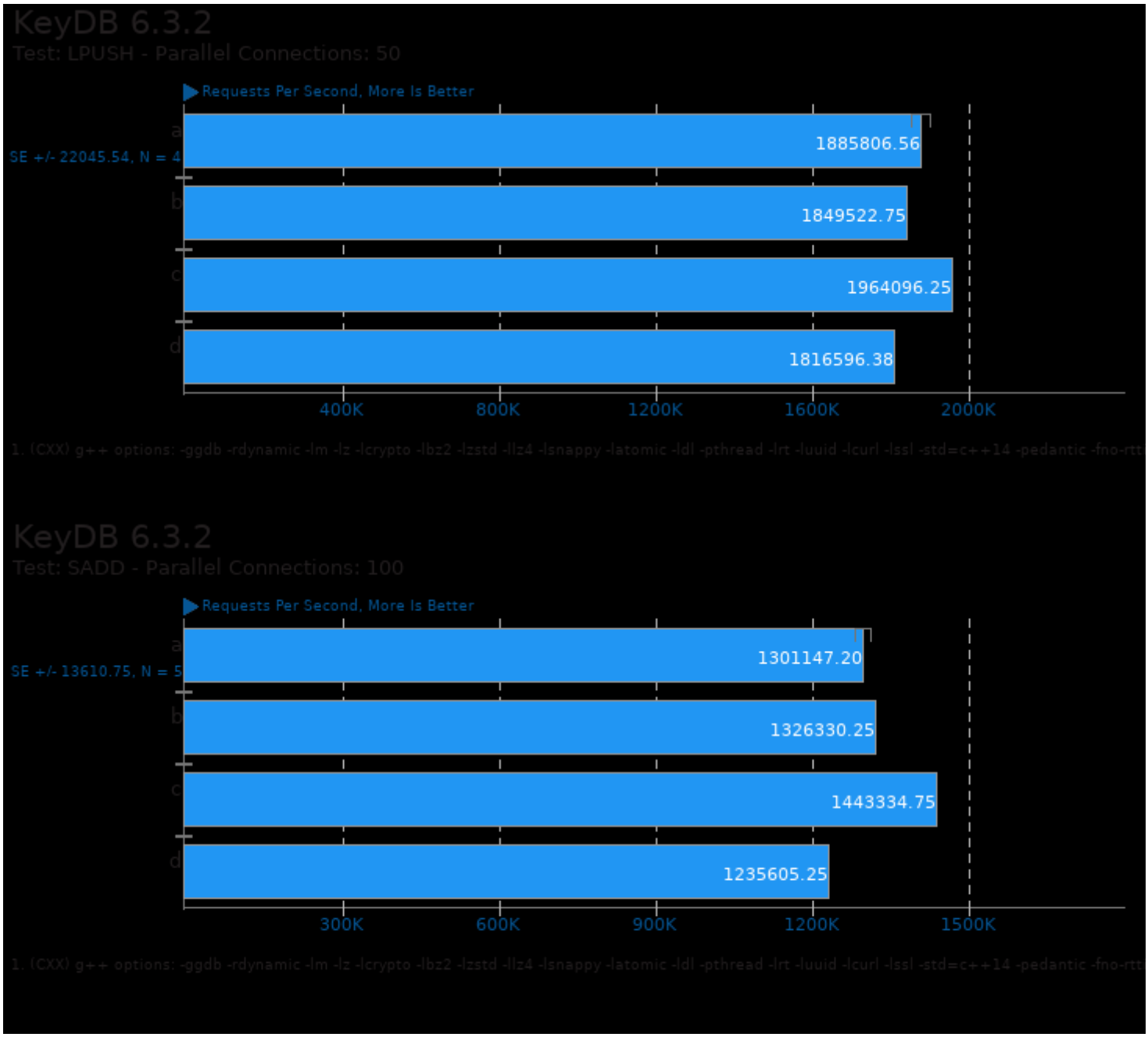

KeyDB 6.3.2
Test: GET - Parallel Connections: 900
Requests Per Second, More Is Better
SE +/- 20017.86, N = 3
a
b
c
d
1563299.29
1582378.62
1527463.75
1510802.12
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: LPOP - Parallel Connections: 50
Requests Per Second, More Is Better
SE +/- 25251.29, N = 3
a
b
c
d
2355768.58
2032602.88
2014748.00
2016942.25
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

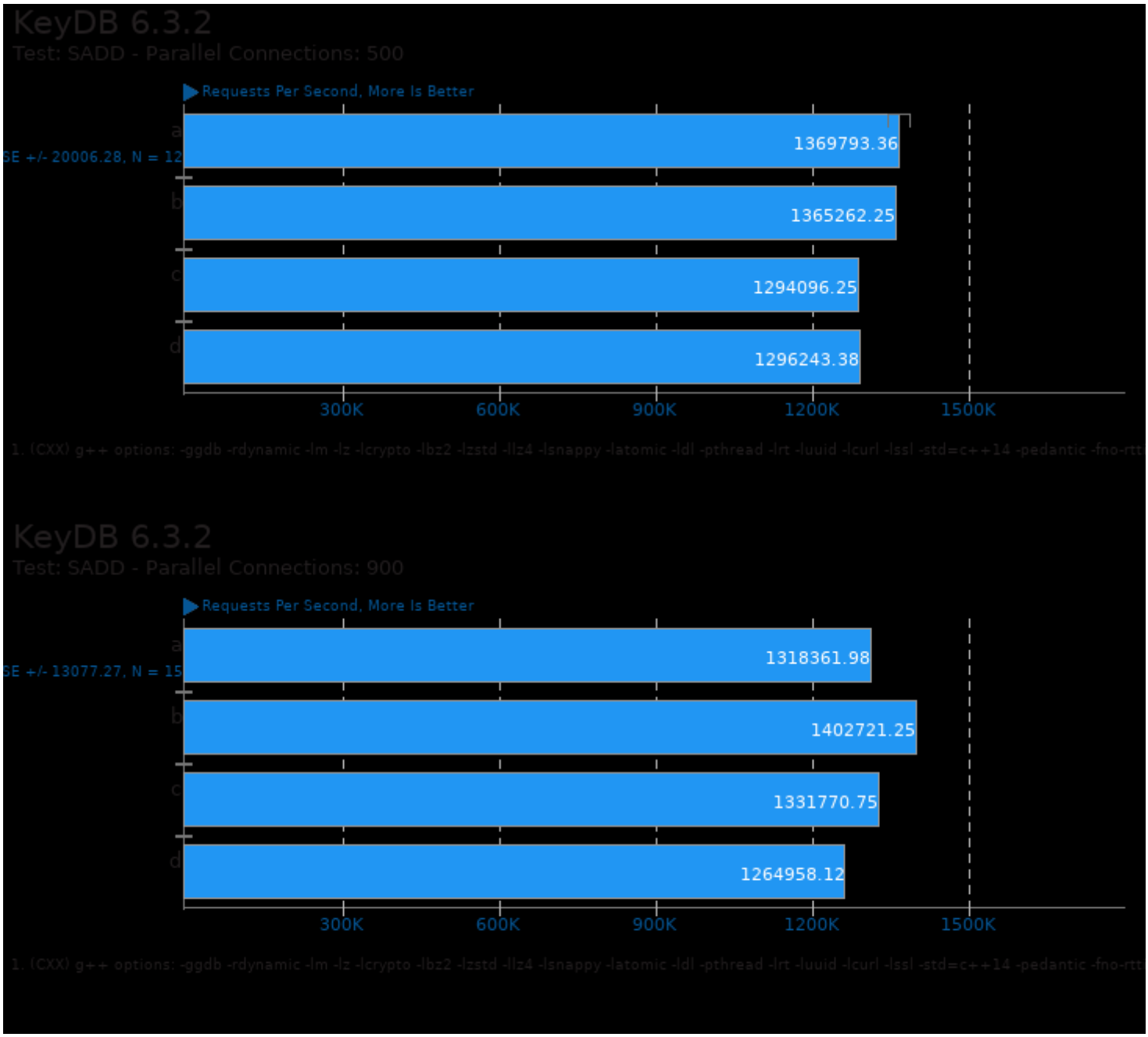

KeyDB 6.3.2
Test: SADD - Parallel Connections: 50
Requests Per Second, More Is Better
SE +/- 14787.63, N = 3
a
2240005.25
b
2210042.50
c
2215133.75
d
2186557.00
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: SET - Parallel Connections: 100
Requests Per Second, More Is Better
SE +/- 6390.36, N = 3
a
1277181.12
b
1180776.88
c
1105998.88
d
1296008.25
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

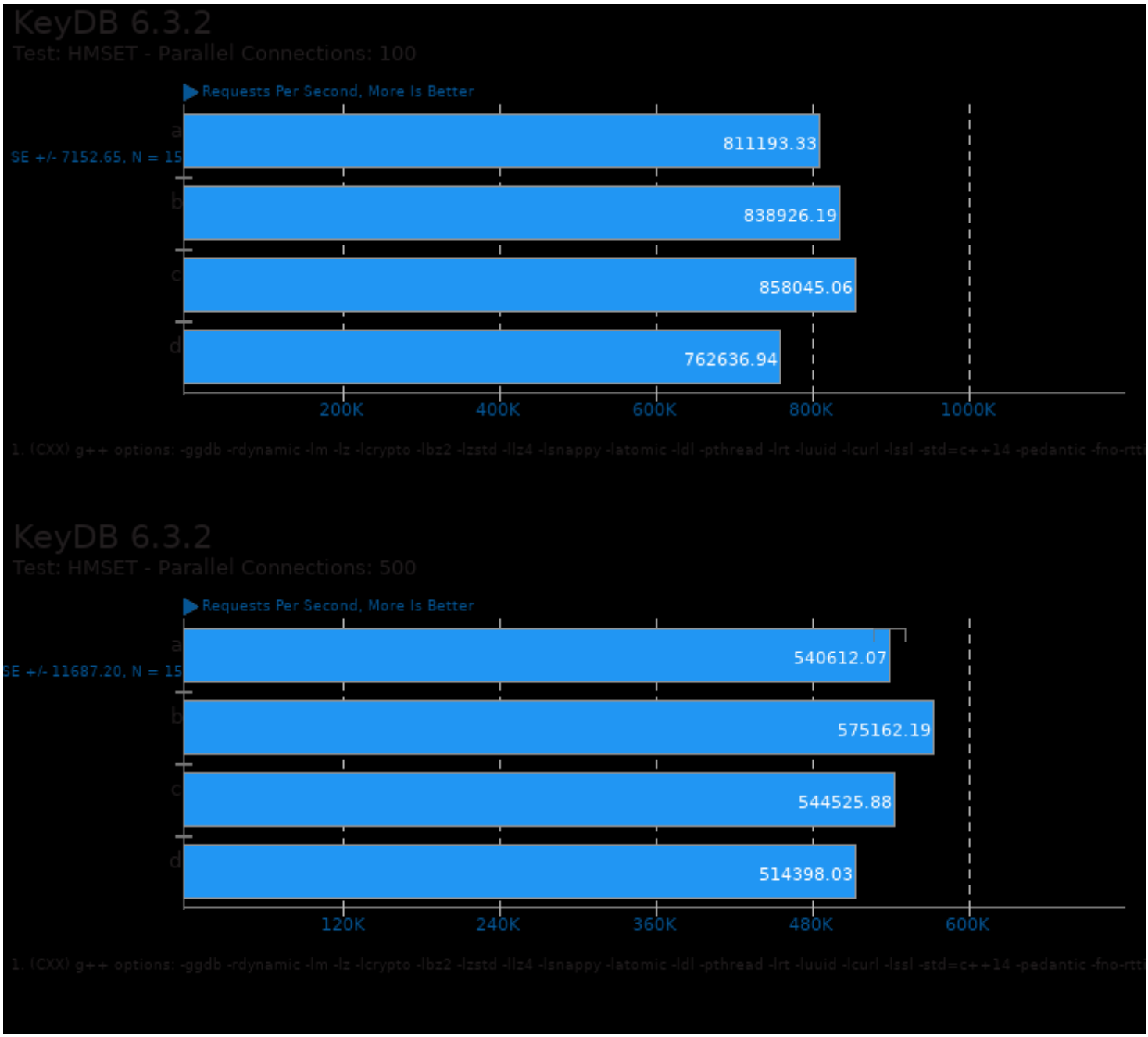

KeyDB 6.3.2
Test: SET - Parallel Connections: 500
Requests Per Second, More Is Better
SE +/- 7859.44, N = 3
a
1242079.00
b
1314786.12
c
1188354.12
d
1307531.38
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: SET - Parallel Connections: 900
Requests Per Second, More Is Better
SE +/- 10170.24, N = 15
a
1227964.69
b
1200999.25
c
1209599.38
d
1305926.38
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

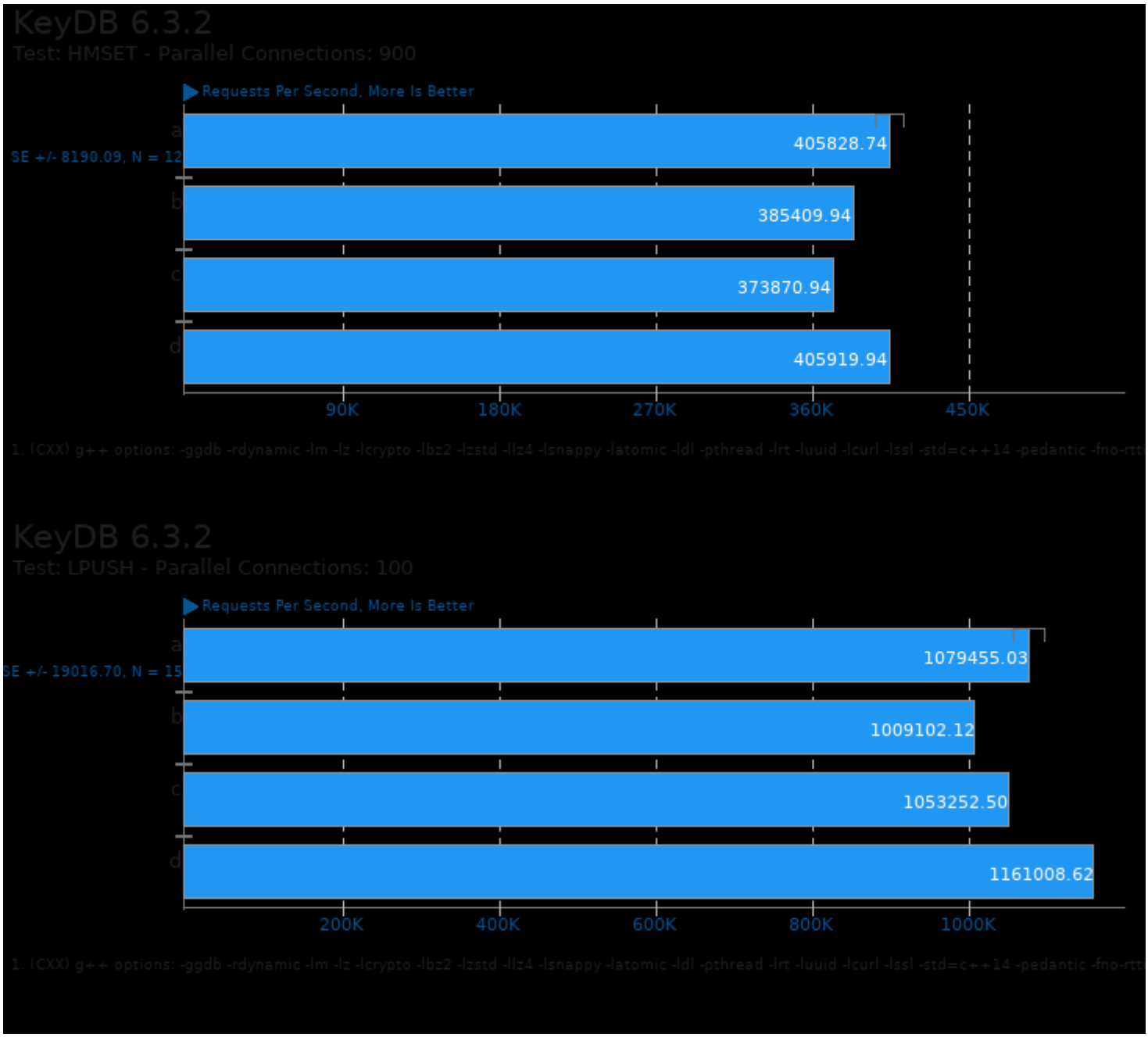

KeyDB 6.3.2
Test: HMSET - Parallel Connections: 50
Requests Per Second, More Is Better
SE +/- 10277.06, N = 3
a
770419.02
b
827088.81
c
822828.56
d
781066.94
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: LPOP - Parallel Connections: 100
Requests Per Second, More Is Better
SE +/- 18631.04, N = 15
a
1548101.63
b
1082813.62
c
1133555.50
d
1110666.75
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

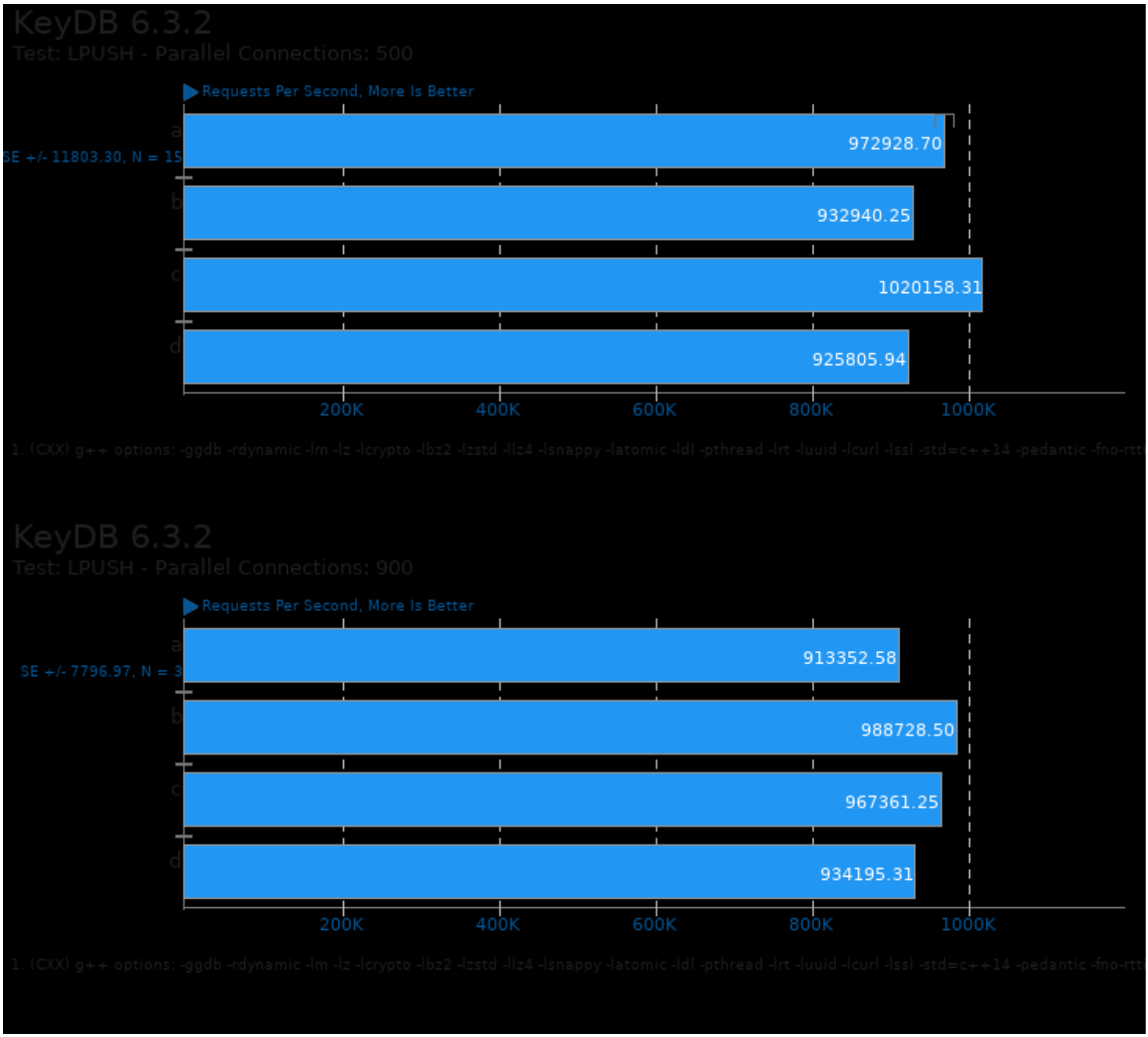

KeyDB 6.3.2
Test: LPOP - Parallel Connections: 500
Requests Per Second, More Is Better
SE +/- 15335.07, N = 15
a
b
c
d
1541362.82
1142413.25
1166752.25
1101928.38
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: LPOP - Parallel Connections: 900
Requests Per Second, More Is Better
SE +/- 21774.31, N = 15
a
b
c
d
1572282.98
1132092.50
1171454.00
1168661.12
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

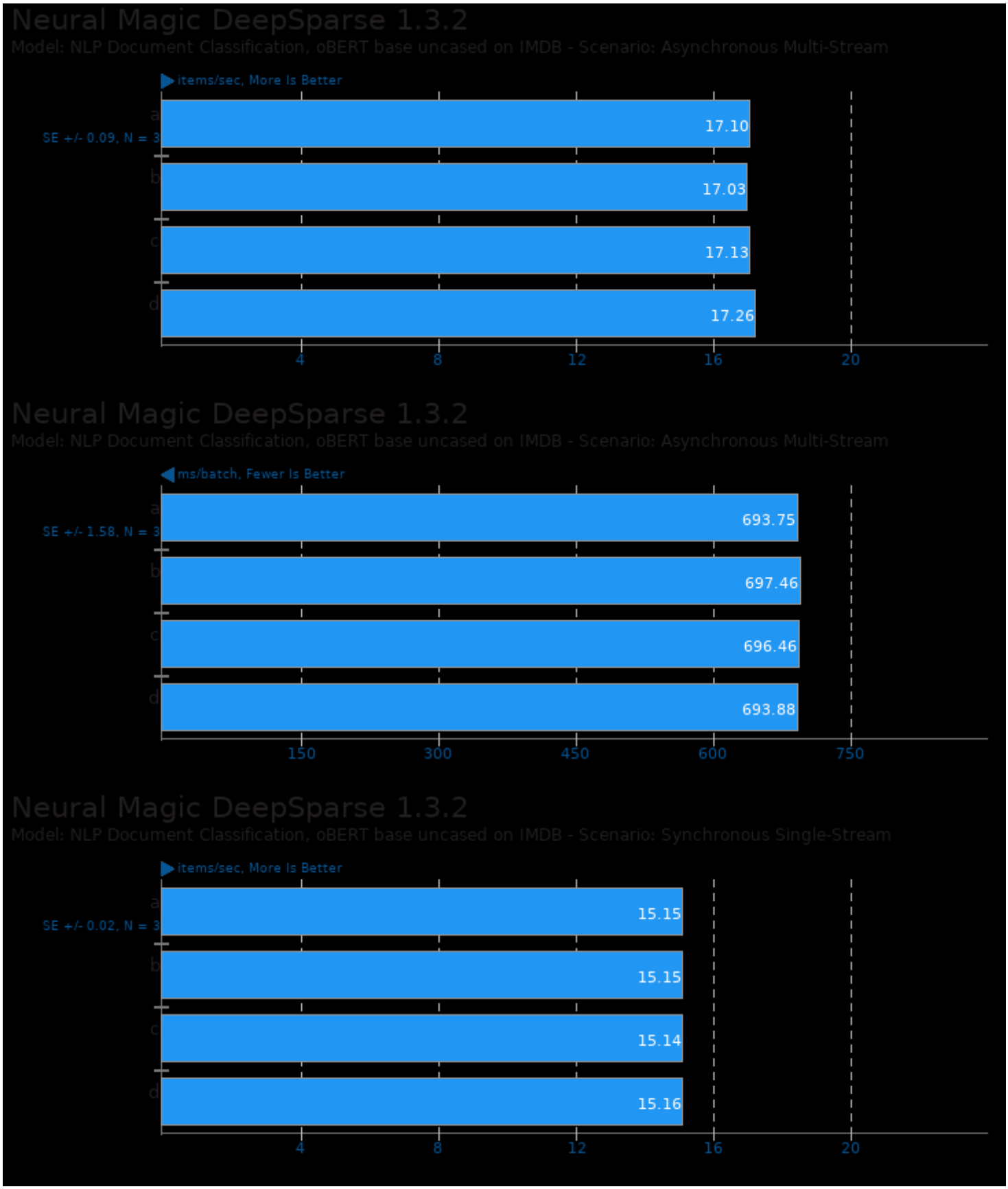

KeyDB 6.3.2
Test: LPUSH - Parallel Connections: 50
Requests Per Second, More Is Better
SE +/- 22045.54, N = 4
a
b
c
d
1885806.56
1849522.75
1964096.25
1816596.38
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: SADD - Parallel Connections: 100
Requests Per Second, More Is Better
SE +/- 13610.75, N = 5
a
b
c
d
1301147.20
1326330.25
1443334.75
1235605.25
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

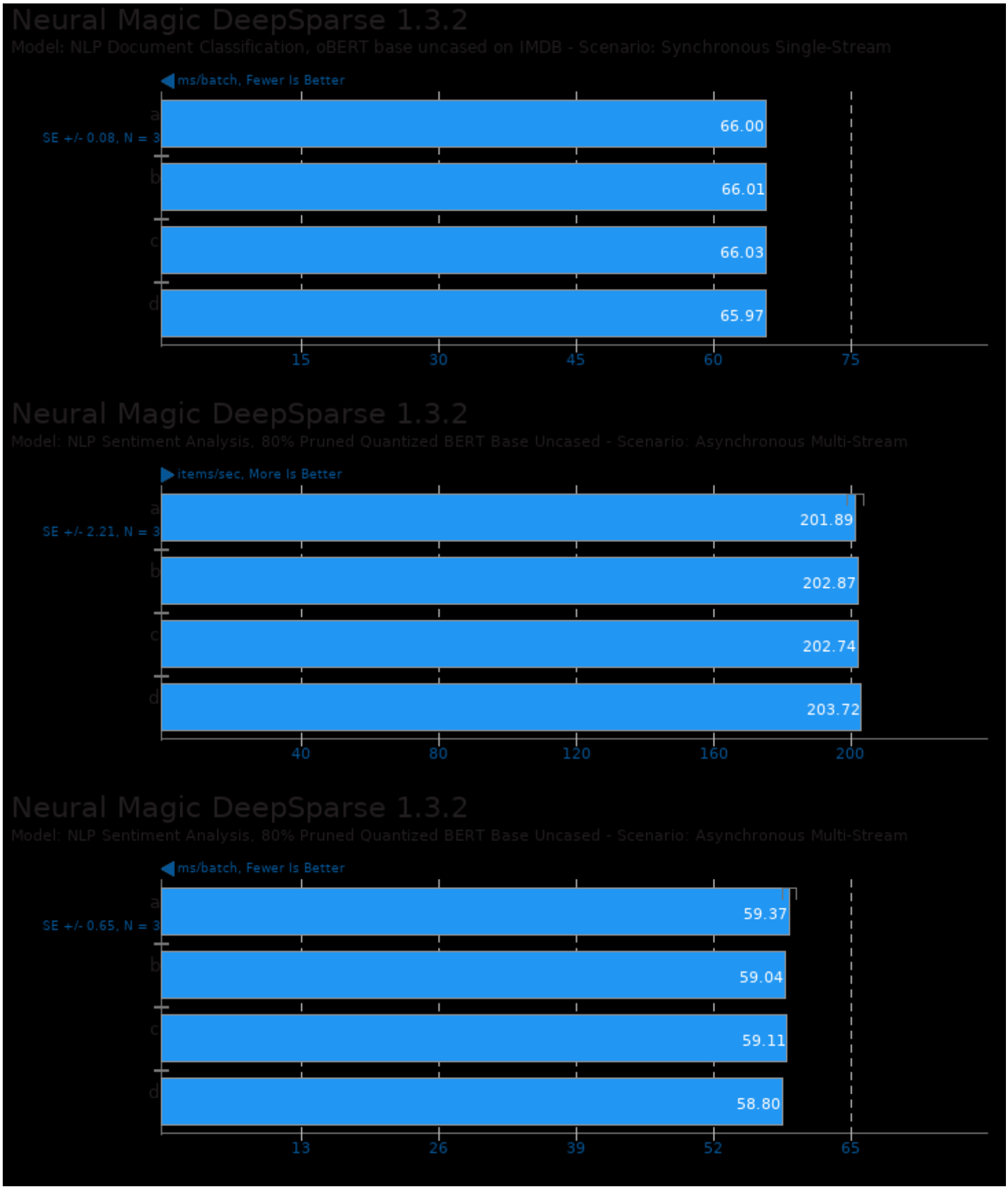

KeyDB 6.3.2
Test: SADD - Parallel Connections: 500
Requests Per Second, More Is Better
a
SE +/- 20006.28, N = 12
1369793.36
b
1365262.25
c
1294096.25
d
1296243.38
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: SADD - Parallel Connections: 900
Requests Per Second, More Is Better
a
SE +/- 13077.27, N = 15
1318361.98
b
1402721.25
c
1331770.75
d
1264958.12
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

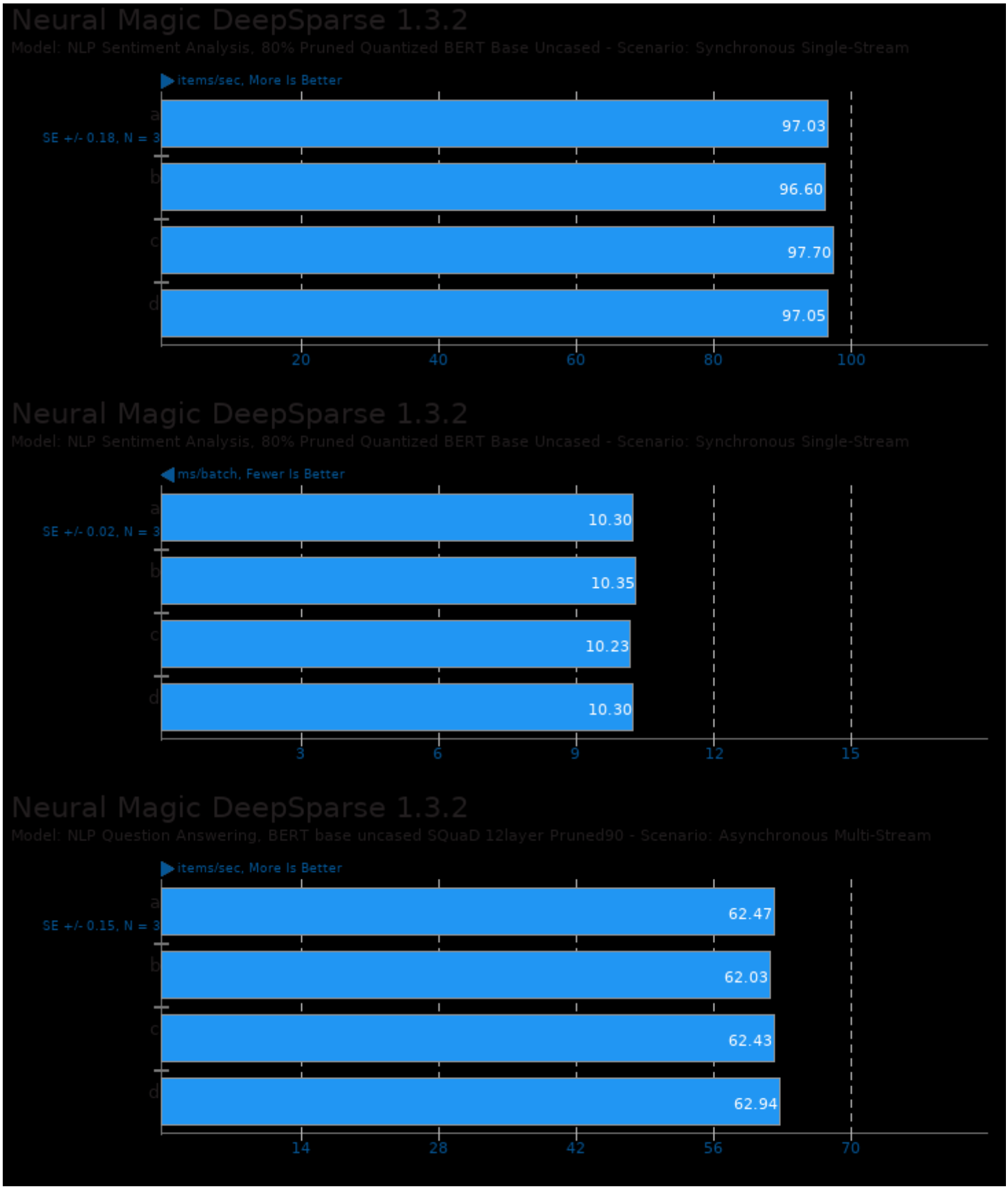

KeyDB 6.3.2
Test: HMSET - Parallel Connections: 100
Requests Per Second, More Is Better
a
b
c
d
811193.33
838926.19
858045.06
762636.94
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtti
KeyDB 6.3.2
Test: HMSET - Parallel Connections: 500
Requests Per Second, More Is Better
a
b
c
d
540612.07
575162.19
544525.88
514398.03
120K
240K
360K
480K
600K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtti

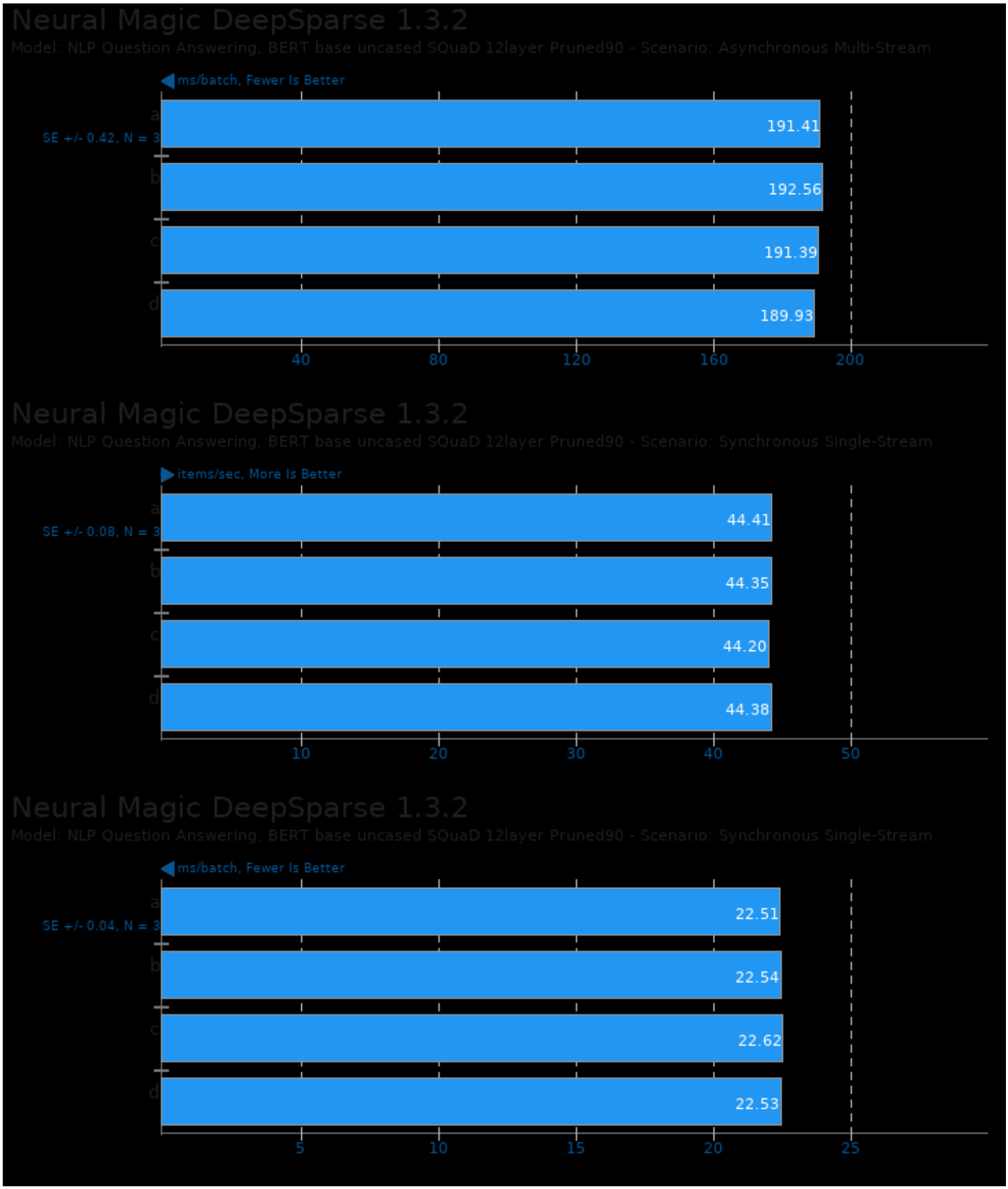

KeyDB 6.3.2
Test: HMSET - Parallel Connections: 900
Requests Per Second, More Is Better
SE +/- 8190.09, N = 12
405828.74
385409.94
373870.94
405919.94
90K
180K
270K
360K
450K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: LPUSH - Parallel Connections: 100
Requests Per Second, More Is Better
SE +/- 19016.70, N = 15
1079455.03
1009102.12
1053252.50
1161008.62
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

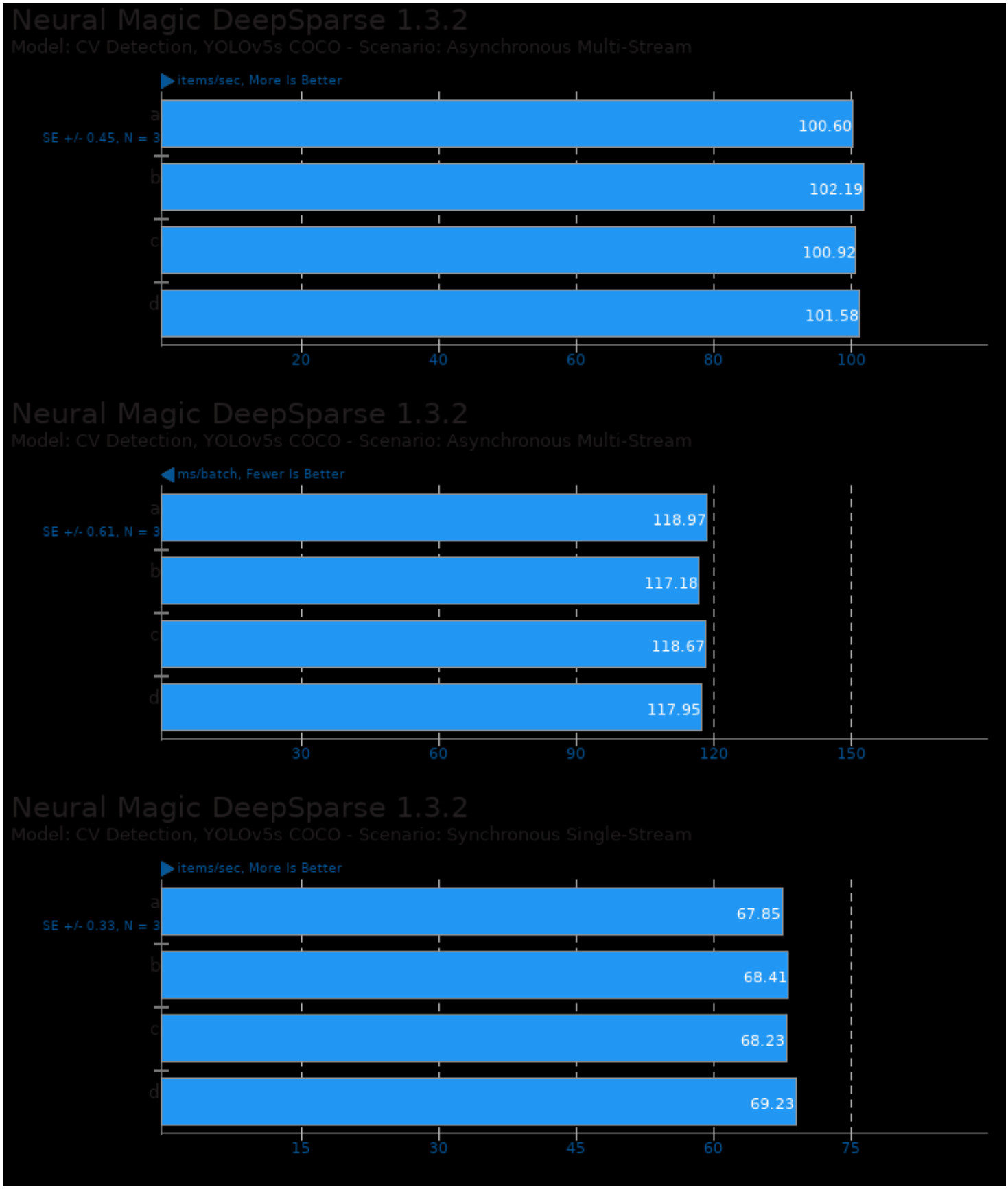

KeyDB 6.3.2
Test: LPUSH - Parallel Connections: 500
Requests Per Second, More Is Better
SE +/- 11803.30, N = 15
a
b
c
d
972928.70
932940.25
1020158.31
925805.94
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt
KeyDB 6.3.2
Test: LPUSH - Parallel Connections: 900
Requests Per Second, More Is Better
SE +/- 7796.97, N = 3
a
b
c
d
913352.58
988728.50
967361.25
934195.31
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -ggdb -rdynamic -lm -lz -lcrypto -lbz2 -lzstd -llz4 -lsnappy -latomic -ldl -pthread -lrt -luuid -lcurl -lssl -std=c++14 -pedantic -fno-rtt

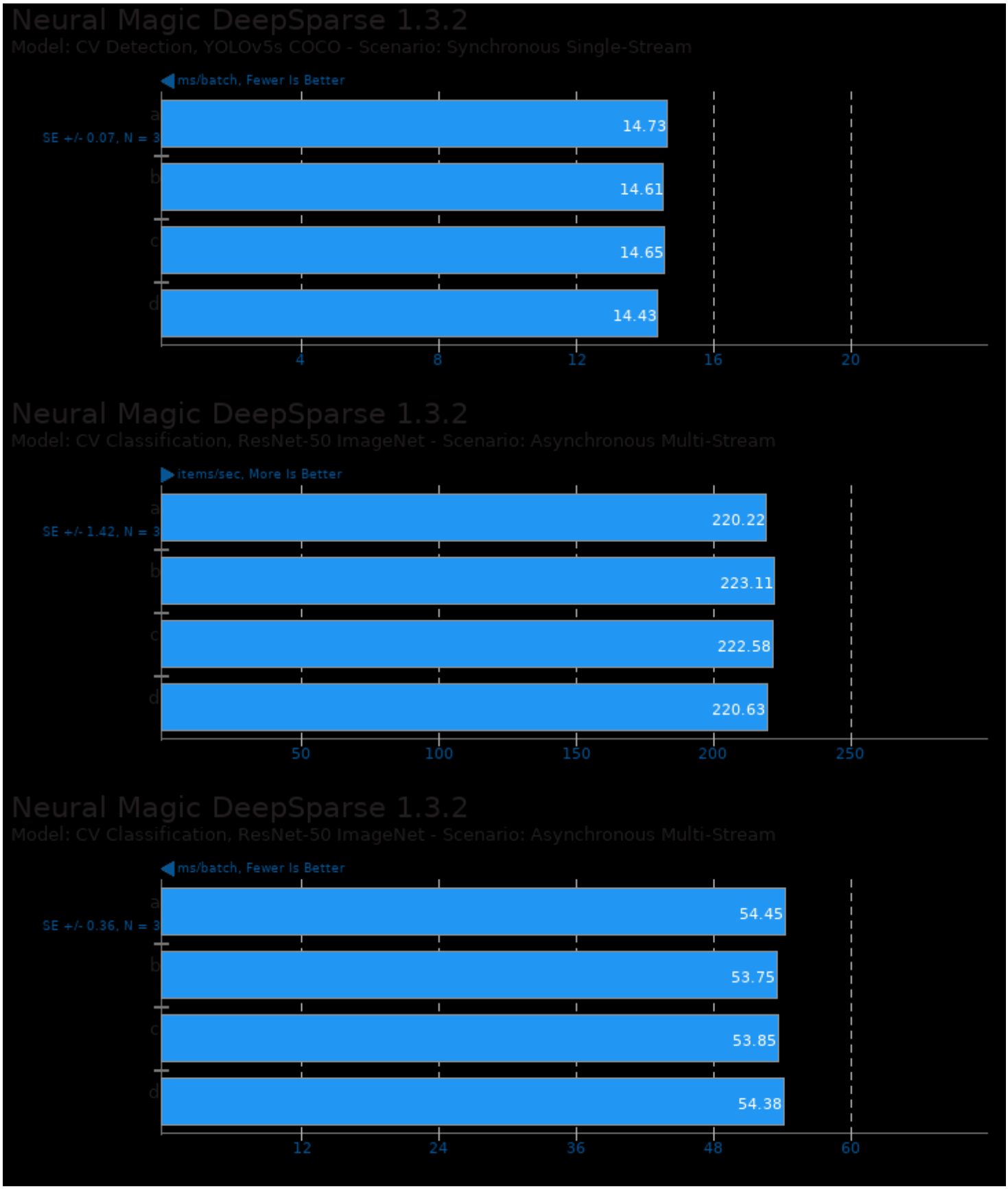

Neural Magic DeepSparse 1.3.2
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 0.09, N = 3
a
17.10
b
17.03
c
17.13
d
17.26
4
8
12
16
20
Neural Magic DeepSparse 1.3.2
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
SE +/- 1.58, N = 3
a
693.75
b
697.46
c
696.46
d
693.88
150
300
450
600
750
Neural Magic DeepSparse 1.3.2
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Synchronous Single-Stream
items/sec, More Is Better
SE +/- 0.02, N = 3
a
15.15
b
15.15
c
15.14
d
15.16
4
8
12
16
20

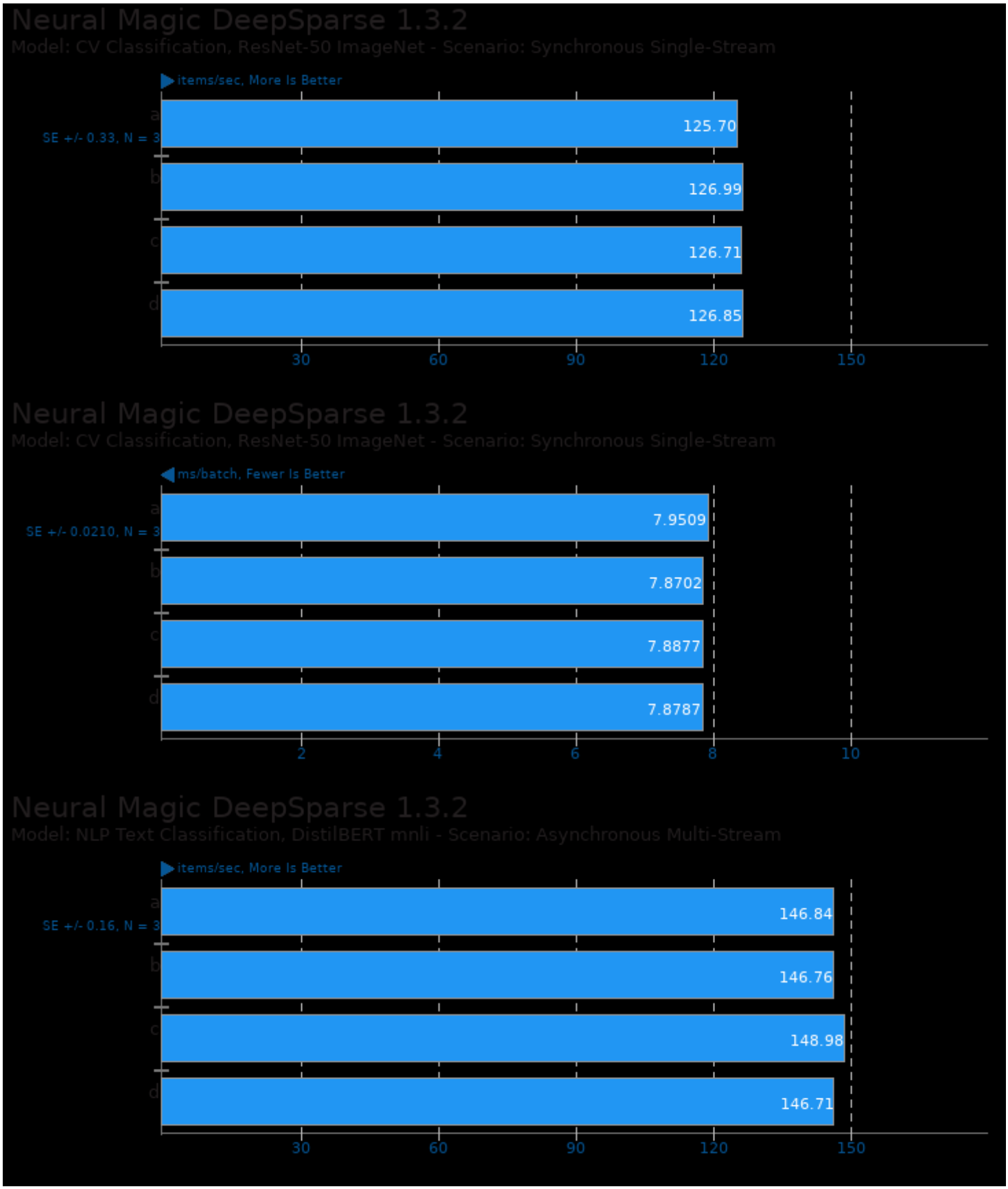

Neural Magic DeepSparse 1.3.2
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
SE +/- 0.08, N = 3
a
66.00
b
66.01
c
66.03
d
65.97
15
30
45
60
75
Neural Magic DeepSparse 1.3.2
Model: NLP Sentiment Analysis, 80% Pruned Quantized BERT Base Uncased - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 2.21, N = 3
a
201.89
b
202.87
c
202.74
d
203.72
40
80
120
160
200
Neural Magic DeepSparse 1.3.2
Model: NLP Sentiment Analysis, 80% Pruned Quantized BERT Base Uncased - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
SE +/- 0.65, N = 3
a
59.37
b
59.04
c
59.11
d
58.80
13
26
39
52
65

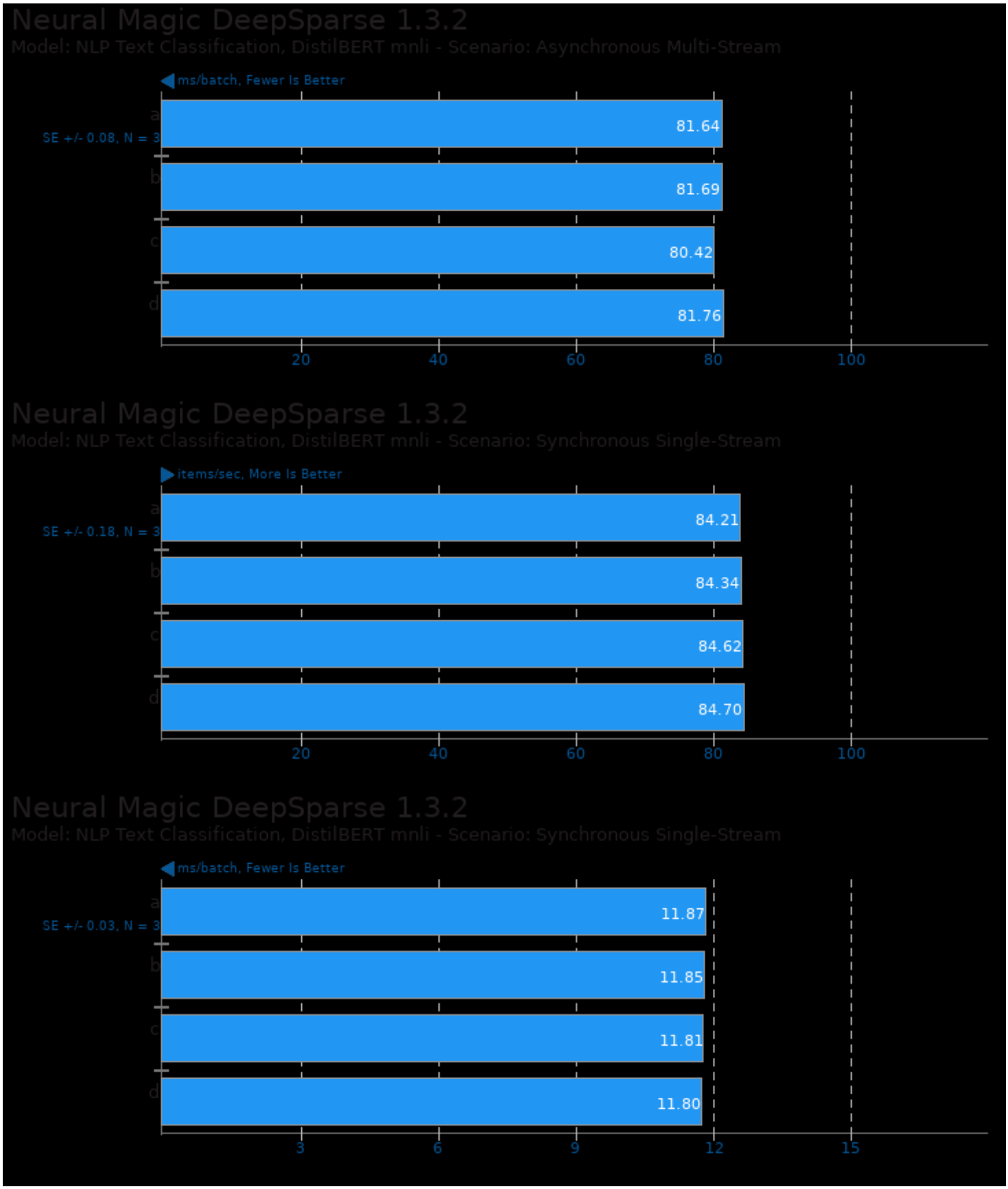

Neural Magic DeepSparse 1.3.2
Model: NLP Sentiment Analysis, 80% Pruned Quantized BERT Base Uncased - Scenario: Synchronous Single-Stream
items/sec, More Is Better
SE +/- 0.18, N = 3
a
97.03
b
96.60
c
97.70
d
97.05
20
40
60
80
100
Neural Magic DeepSparse 1.3.2
Model: NLP Sentiment Analysis, 80% Pruned Quantized BERT Base Uncased - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
SE +/- 0.02, N = 3
a
10.30
b
10.35
c
10.23
d
10.30
3
6
9
12
15
Neural Magic DeepSparse 1.3.2
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 0.15, N = 3
a
62.47
b
62.03
c
62.43
d
62.94
14
28
42
56
70

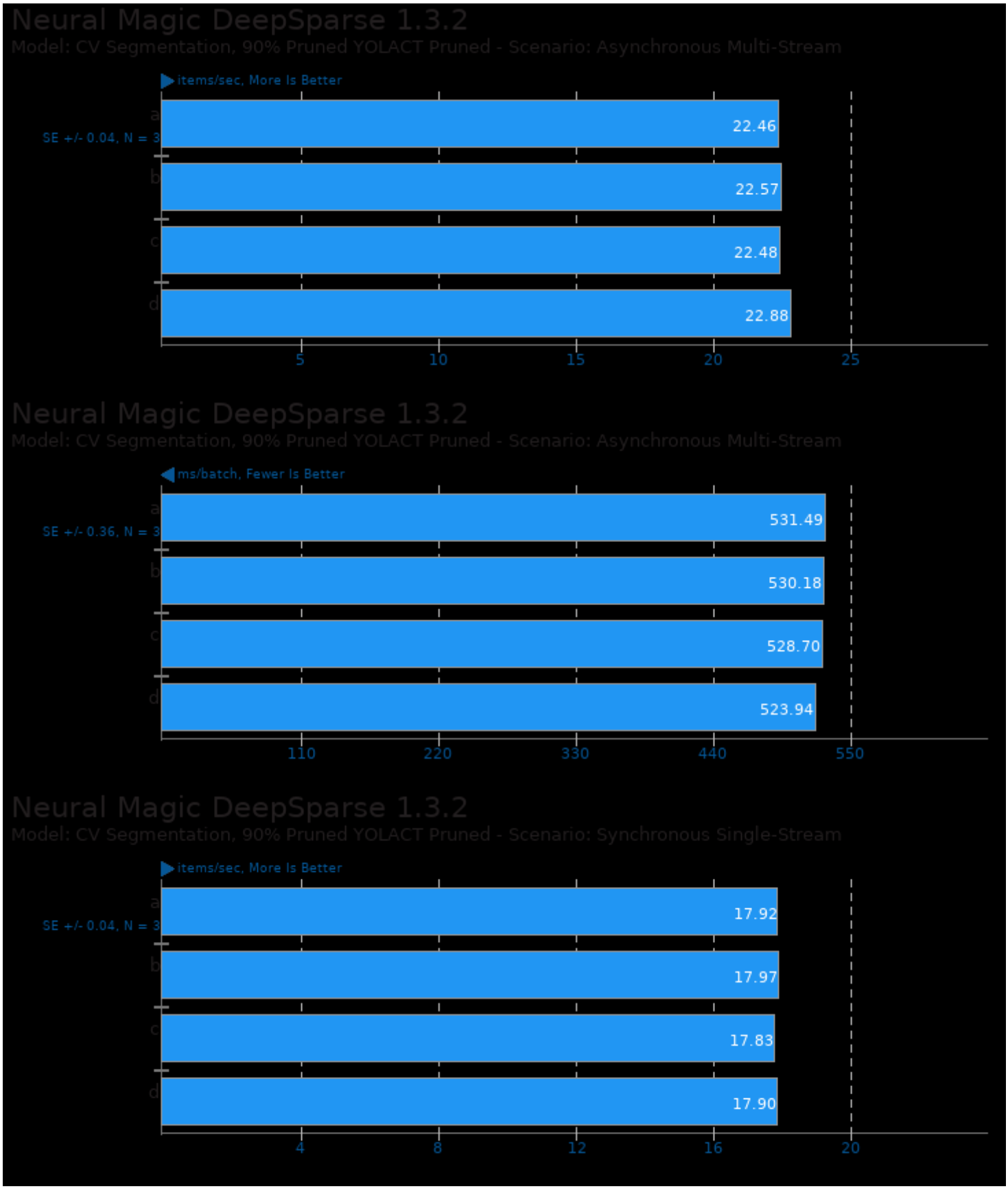

Neural Magic DeepSparse 1.3.2
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
SE +/- 0.42, N = 3
a
191.41
b
192.56
c
191.39
d
189.93
40
80
120
160
200
Neural Magic DeepSparse 1.3.2
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Synchronous Single-Stream
items/sec, More Is Better
SE +/- 0.08, N = 3
a
44.41
b
44.35
c
44.20
d
44.38
10
20
30
40
50
Neural Magic DeepSparse 1.3.2
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
SE +/- 0.04, N = 3
a
22.51
b
22.54
c
22.62
d
22.53
5
10
15
20
25

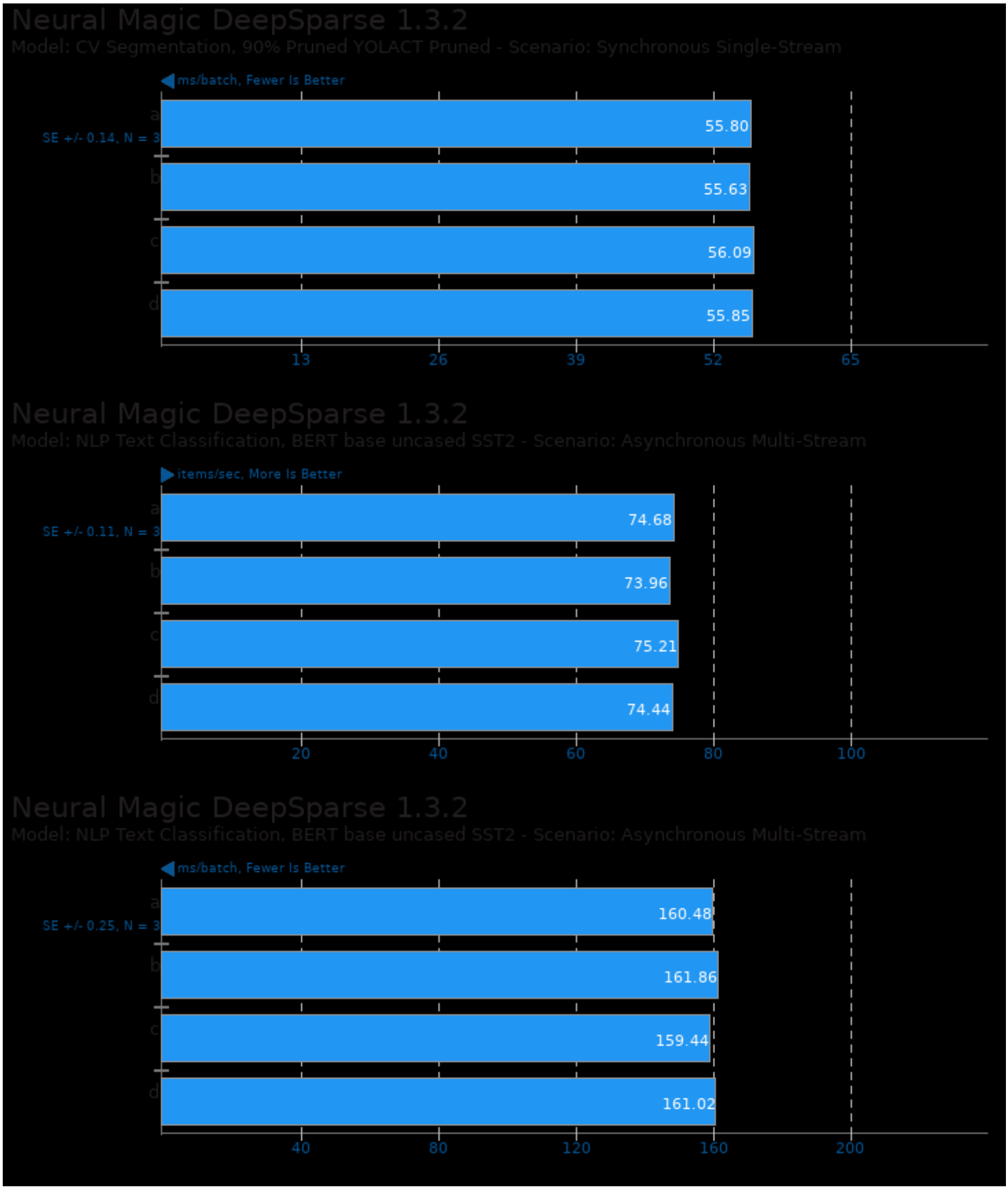

Neural Magic DeepSparse 1.3.2
Model: CV Detection, YOLOv5s COCO - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 0.45, N = 3
a
b
c
d
100.60
102.19
100.92
101.58
20
40
60
80
100
Neural Magic DeepSparse 1.3.2
Model: CV Detection, YOLOv5s COCO - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
SE +/- 0.61, N = 3
a
b
c
d
118.97
117.18
118.67
117.95
30
60
90
120
150
Neural Magic DeepSparse 1.3.2
Model: CV Detection, YOLOv5s COCO - Scenario: Synchronous Single-Stream
items/sec, More Is Better
SE +/- 0.33, N = 3
a
b
c
d
67.85
68.41
68.23
69.23
15
30
45
60
75

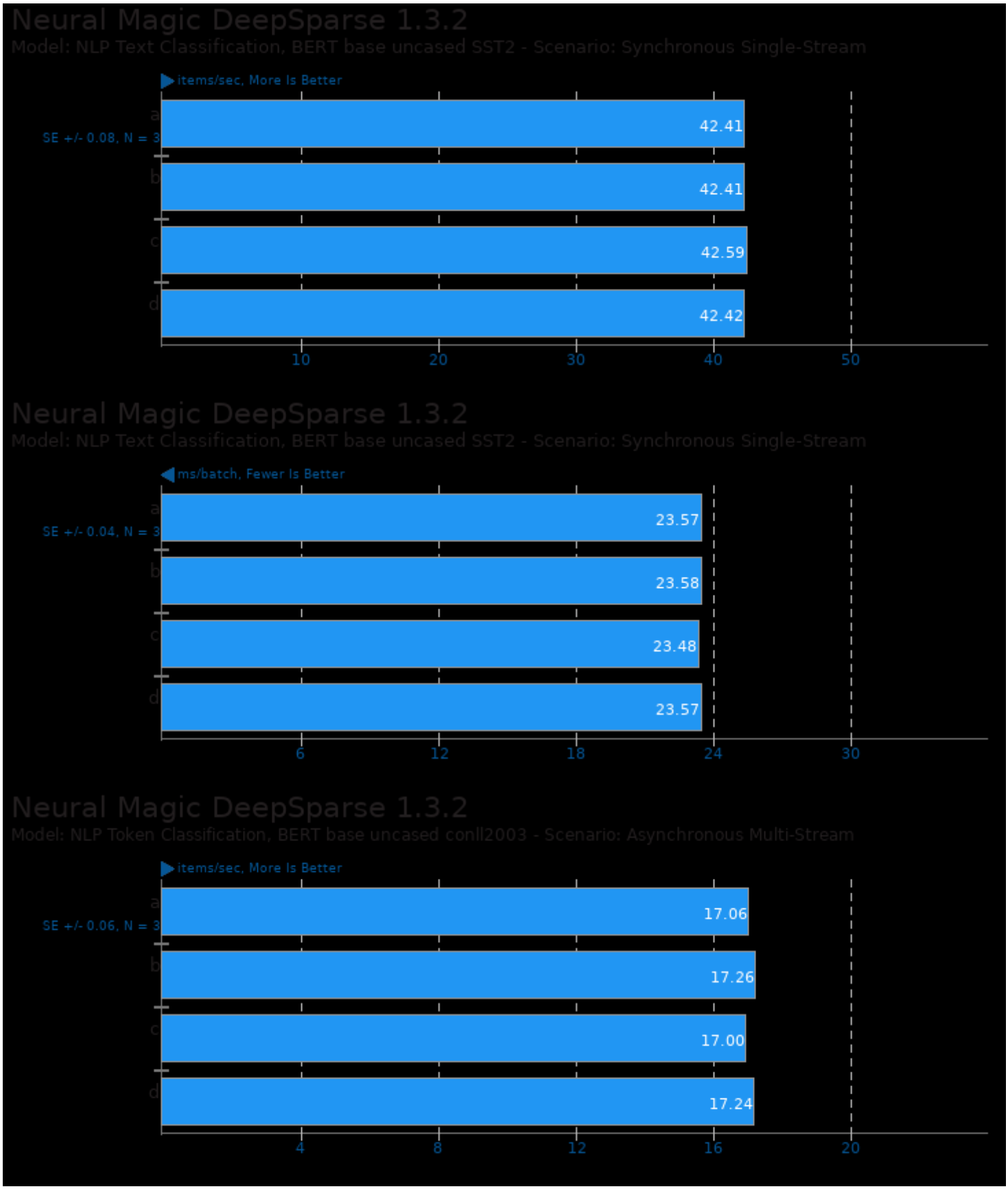

Neural Magic DeepSparse 1.3.2
Model: CV Detection, YOLOv5s COCO - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
SE +/- 0.07, N = 3
a
14.73
b
14.61
c
14.65
d
14.43
4
8
12
16
20
Neural Magic DeepSparse 1.3.2
Model: CV Classification, ResNet-50 ImageNet - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 1.42, N = 3
a
220.22
b
223.11
c
222.58
d
220.63
50
100
150
200
250
Neural Magic DeepSparse 1.3.2
Model: CV Classification, ResNet-50 ImageNet - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
SE +/- 0.36, N = 3
a
54.45
b
53.75
c
53.85
d
54.38
12
24
36
48
60

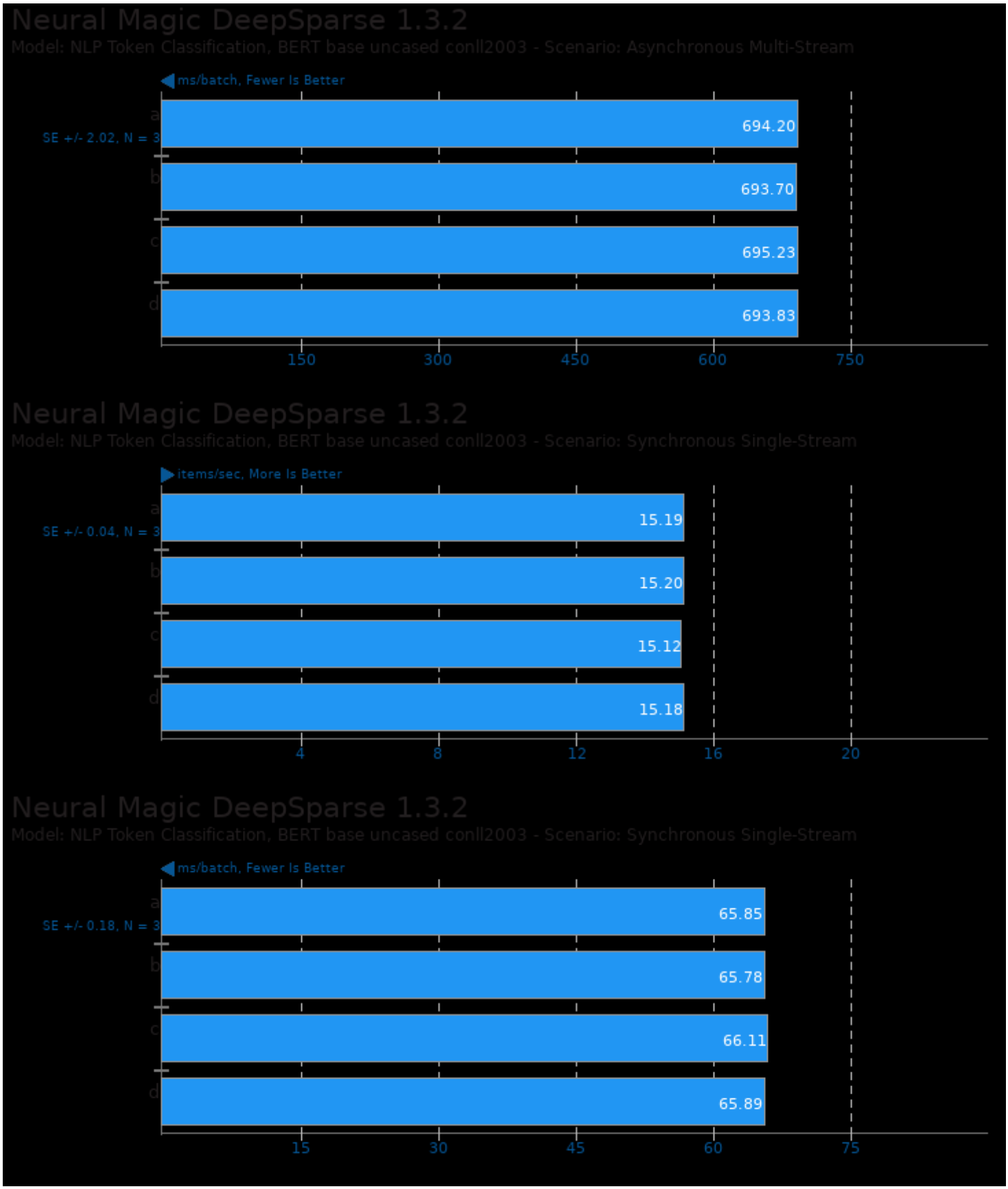

Neural Magic DeepSparse 1.3.2
Model: CV Classification, ResNet-50 ImageNet - Scenario: Synchronous Single-Stream
items/sec, More Is Better
SE +/- 0.33, N = 3
a
125.70
b
126.99
c
126.71
d
126.85
30
60
90
120
150
Neural Magic DeepSparse 1.3.2
Model: CV Classification, ResNet-50 ImageNet - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
SE +/- 0.0210, N = 3
a
7.9509
b
7.8702
c
7.8877
d
7.8787
2
4
6
8
10
Neural Magic DeepSparse 1.3.2
Model: NLP Text Classification, DistilBERT mnli - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 0.16, N = 3
a
146.84
b
146.76
c
148.98
d
146.71
30
60
90
120
150


Neural Magic DeepSparse 1.3.2
Model: NLP Text Classification, DistilBERT mnli - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
SE +/- 0.08, N = 3
a
81.64
b
81.69
c
80.42
d
81.76
20
40
60
80
100
Neural Magic DeepSparse 1.3.2
Model: NLP Text Classification, DistilBERT mnli - Scenario: Synchronous Single-Stream
items/sec, More Is Better
SE +/- 0.18, N = 3
a
84.21
b
84.34
c
84.62
d
84.70
20
40
60
80
100
Neural Magic DeepSparse 1.3.2
Model: NLP Text Classification, DistilBERT mnli - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
SE +/- 0.03, N = 3
a
11.87
b
11.85
c
11.81
d
11.80
3
6
9
12
15


Neural Magic DeepSparse 1.3.2
Model: CV Segmentation, 90% Pruned YOLACT Pruned - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 0.04, N = 3
a
22.46
b
22.57
c
22.48
d
22.88
5
10
15
20
25
Neural Magic DeepSparse 1.3.2
Model: CV Segmentation, 90% Pruned YOLACT Pruned - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
SE +/- 0.36, N = 3
a
531.49
b
530.18
c
528.70
d
523.94
110
220
330
440
550
Neural Magic DeepSparse 1.3.2
Model: CV Segmentation, 90% Pruned YOLACT Pruned - Scenario: Synchronous Single-Stream
items/sec, More Is Better
SE +/- 0.04, N = 3
a
17.92
b
17.97
c
17.83
d
17.90
4
8
12
16
20


Neural Magic DeepSparse 1.3.2
Model: CV Segmentation, 90% Pruned YOLACT Pruned - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
SE +/- 0.14, N = 3
a
55.80
b
55.63
c
56.09
d
55.85
13
26
39
52
65
Neural Magic DeepSparse 1.3.2
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 0.11, N = 3
a
74.68
b
73.96
c
75.21
d
74.44
20
40
60
80
100
Neural Magic DeepSparse 1.3.2
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
SE +/- 0.25, N = 3
a
160.48
b
161.86
c
159.44
d
161.02
40
80
120
160
200


Neural Magic DeepSparse 1.3.2
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Synchronous Single-Stream
items/sec, More Is Better
SE +/- 0.08, N = 3
a
42.41
b
42.41
c
42.59
d
42.42
10
20
30
40
50
Neural Magic DeepSparse 1.3.2
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
SE +/- 0.04, N = 3
a
23.57
b
23.58
c
23.48
d
23.57
6
12
18
24
30
Neural Magic DeepSparse 1.3.2
Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
SE +/- 0.06, N = 3
a
17.06
b
17.26
c
17.00
d
17.24
4
8
12
16
20



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